JOURNAL OF

International Scientific Publications:

Educational Alternatives, Volume 11, Part 2

Peer-Reviewed Open Access Journal

Published at:

http://www.scientific-publications.net

Published by Info Invest Ltd

www.sciencebg.net

ISSN 1313-2571, 2013, Bulgaria (EU)

Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

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ISSN 1313-2571, Published at: http://www.scientific-publications.net

EARLY CHILDHOOD EDUCATION IN THE FORMAL SCHOOLING SECTOR- IMPLICATIONS FOR TEACHER EDUCATION

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Abstract

The purpose of this research was to explore how the Grade R (reception year) programme is conceptualised as part of the foundation phase programme offered at one South African Higher Education Institution. The research attempted to find out what the theoretical underpinnings of the programme is and how this programme prepares Grade R student-teachers for effective classroom practice in the South African context.A curriculum framework and interviews provided the necessary data. The findings show that a combined foundation phase programme does not do justice to the unique nature of Grade R. Lecturers support a developmental rather than a socio-cultural approach to early childhood education, viewing Grade R as preparation for formal schooling rather than a programme that develops skills and a willingness to learn . Re-curriculation will require a dedicated programme for Grade R, with a clear focus on the theoretical underpinning of this Grade R programme

Key words: *Foundation Phase; Grade R; Developmental approach; Socio-cultural approach; Formal education.*

1. INTRODUCTION AND BACKGROUND

In South Africa, early childhood education has undergone considerable changes over the last two decades. These changes are in line with the policy changes that have characterised education in the post-apartheid era. One such major change was the incorporation of Grade R (reception year) into mainstream schools. This has implication for teacher education as large numbers of reception year teachers are required.

Prior to the transformation of the education system in South Africa, the education of children under six years of age was largely the responsibility of non-governmental institutions (NGO's). During the apartheid years, a number of semi-private pre-primary schools existed that were partly controlled by the Department of Education. The junior primary phase (three years) was the first phase of formal schooling and accommodated children between six and nine years of age. Early childhood education was greatly affected by the transformation of the education system. The period spanning birth to nine years is now referred to as early childhood development (ECD) and that part of ECD that falls within the formal schooling system is now called the Foundation Phase and consists of four grades- Grade R, one, two and three. Grade R is the reception year and was traditionally part of the pre-school phase.

A further major change occurred when Colleges of Education were closed and teacher education became the responsibility of Higher Education Institutions (HEI's). This resulted in a reduction of institutions educating teachers in ECD. Furthermore these HEI's had to decide whether they would offer programmes that spanned the complete ECD period or whether they would only offer programmes for the Foundation Phase. The University at which this research was conducted implemented a new curriculum in 2003 which was referred to as the ECD/Foundation Phase programme, meaning that it

included the full spectrum of ECD in the curriculum The intention was that students who completed this programme would be qualified to teach children from birth to nine years of age and could teach at child care centres, crèches and private pre-schools, as well as in the Foundation Phase at primary schools. Initially, a number of modules were developed for this purpose, but it became clear very early on that it was not going to be possible to prepare students across the spectrum of ECD. The programme therefore focused on Grades R to three, incorporating Grade R into the Foundation Phase in line with DoE policy. Students who complete this programme are qualified to teach across all grades of this phase.

2. LITERATURE REVIEW

Historically early childhood education was divided into two distinct and separately functioning systems i.e. preschool education and junior primary education. White paper five, an Education and Training policy document (DoE, 2001) introduced the term early childhood development (ECD), thus emphasising the early development of the child as one continuous phase (0-9 years). The rationale behind this decision was most probably based on evidence from research that supported a more developmentally appropriate approach to the education of children between the ages of birth and nine years (University of the Witwatersrand Report, 2009). Unfortunately this vision has not been fully realised as many educators still view preschool education and formal schooling as two separate entities (University of the Witwatersrand Report, 2009). While policy documents are at pains to emphasise the importance of early childhood education, there does seems to be a lack of political and educational will to ensure that all of South Africa's children are given the best possible start on their path of lifelong learning (Porteus, 2004).

While teacher education programmes should strive to provide programmes that will enable students to teach in any context, cognisance should be taken of the national policies that guide teacher education. In the South African context this challenge is further compounded by the dilemma faced by Grade R teachers of the way in which the Grade R year is conceptualised. Earlier policy documents such as the Interim Policy for Early Childhood Development (DoE, 1996) is quite contradictory in that it has a strong developmental focus on the one hand and proposes a Grade R methodological approach, but on the other hand suggests that Grade R programmes follow national curriculum guidelines. The Revised National Curriculum Statement (DoE,2003) discusses Grade R as the first year of the Foundation Phase (Biersteker & Dawes 2008) but only through the various learning areas and not as an entity on its own with it unique philosophical underpinnings. The current policy document, the National Curriculum Statement for Grades R-12 (2012), is more explicit in its discussion of foundation phase programmes. However, the way both policy documents present Grade R does raise the question of where Grade R actually fits in.

All these challenges have filtered through to Higher Education as programmes need to be developed that prepare students to teach within the context of different understandings of where the reception year fits in. While much research has been conducted with regard to policies guiding early childhood education (Mc Cafferty 2008; Tarner 2005 & Chisholm 2004), the main focus has been on those factors that influence the way young children develop (Lynch 2008; Hassink & Kiiver 2007; Conezio & French 2002). In the formal schooling sector those factors that impact on learning, have received particular attention. The expectation is that the designers of early childhood education programmes should take policy guidelines into consideration, but be guided by research on early childhood development in the development of their programmes. Unfortunately, it appears that educational research has not had much influence on the field of early childhood education (BERA 2003).

Although a number of factors may impact on children's cognitive development, research has shown that quality preschool education that enables cognitive development, is especially beneficial to disadvantaged children (Heckman 2006; Sammons, Sylva, Melhuish, Siraj-Blatchford & Taggart 2004; Schweinhart & Weikart 1997) in that it improves disadvantaged children's school readiness, educational achievements, and social adjustment (Melhuish, Sylva, Sammons, Siraj-Blatchford, Taggart, Phan & Malin 2008). In the light of these findings, it becomes clear why the DoE would want to include Grade R in the Foundation Phase, considering South Africa's large numbers of children from disadvantaged backgrounds.

A further issue that needs consideration within the sphere of ECD is the usefulness of the current theoretical foundations of early childhood education. These foundations are increasingly being called into question as the notion of the 'universal child' is challenged (Dahlberg, Moss & Pence 1999). This brings the developmental approach under the spotlight because it places all children in discreet developmental stages. On the other hand, the cultural-historical approach takes the child's socio-cultural environment into account. However, the socio-cultural approach has to consider the nature of the teacher more carefully. Recent research has focused on the importance of teachers' beliefs in the ECD context (Saracho & Spodek 2005). The way a teacher views education in the early years is influenced by the socio-cultural contexts in which this education takes place (Saracho & Spodek 2005). If the teacher's view of education is different to that stipulated in policy documents, this could be problematic. Research points to the difficulty in changing teachers beliefs and practices from a developmental to a cultural-historical perspective (Fleer & Richardson 2003; Fleer & Robbins 2007). This raises the question if the cultural-historical approach to ECD education or the developmental approach is the most suitable approach within the South African context. Both of the above approaches imply that the pedagogy in Grade R should be different to that in Grades one to three.

A third approach that was commonly in use prior to transformation of the education system was an approach that emphasised the three R's. (Excell & Linington 2011). It foregrounded pencil and paper activities and is not regarded as a pedagogically sound approach for pre-grade one learners. While this approach is frowned upon by specialists in ECD, by including the Grade R year in the Foundation Phase it leaves the door open for teachers who are not suitably qualified to teach Grade R to interpret the NCS to mean the third approach.

Unless we find a common vision for what Grade R embodies, we do not have much chance of achieving the goal of quality Grade R programmes as university ECD programmes should speak to this common goal. Essentially the choice is between a Grade R programme that prepares children for Grade one or a programme that equips children with the necessary skills to develop the confidence and willingness to learn. While both the developmental and the socio- cultural approaches focus on the latter, Excell and Linington (2011) are of the view that the socio-cultural approach is more appropriate for the South African context. This would of course require teachers who are equipped to apply the socio-cultural approach. University programmes should therefore prepare students to teach in diverse contexts, and be knowledgeable with regard to Grade R pedagogy.

In conclusion then, there is very little clarity as to where Grade R is positioned theoretically in the South African ECD landscape. Research points to the need for a Grade R curriculum that is similar to the final year pre-school curriculum, but national policy documents and the fact that Grade R is structurally part of the Foundation Phase points to a more formal curriculum. This has implications for the type of curricula HEI's offer for ECD students.

3. THE PURPOSE AND CONTEXT OF THE RESEARCH

The purpose of this research was to explore how the Grade R programme is conceptualised as part of the foundation phase programme as offered by one South African HEI. The focus of the research is therefore the Grade R programme. While the research project included participants such as students, lecturers and teachers, this paper reports only on the views of lecturers who teach or have taught on the programme with regard to the nature and quality of the Grade R programme.

The critical question that framed the research was: *How does a HEI prepare reception year (Grade R) student-teachers for effective classroom practice in the South African context?* The data required to answer the critical question was obtained by formulating a sub question:

How do lecturers who teach on the programme view the programme?

4. METHODOLOGY

The research approach is qualitative as the lecturer interviews were analysed qualitatively, giving the study an interpretive slant as we interpreted the data at a particular time, in a particular context. We sought to understand participant's actions and practices and to explain them. We analysed the interviews in order to discover meaning embedded in these texts (de Vos, Strydom, Fouche & Delport 2002). The research design is that of a case study as data were collected from one institution in which we attempted to gain information about a particular phenomenon (Punch 2009).

4.1. Methods of data collection

The composition of the ECD/FP programme was analysed to obtain insight into the types and numbers of modules offered that were pertinent to this phase. We were especially interested to see if any modules were specifically designed for Grade R.. Four lecturers in ECD/FP who are either teaching or have taught on the programme were interviewed to obtain some insight into their views on the composition, quality and delivery of the programme.

5. FINDINGS AND DISCUSSION

Data obtained were analysed to enable us to answer our research question. The composition of the Foundation Phase Programme, known as the ECD/FP Programme is presented in Table I. Generic modules taken by all students on the B.Ed programme such as Educational and Professional Studies as well as electives are not included.

The table shows that all modules, except one, Numeracy in the early years, are common to all grades in the Foundation Phase programme. Numeracy in the early years was discontinued as it only applied to Grade R and as students in this programme are expected to qualify to teach any grade from Grade R to Grade three. At this institution the programme for ECD/Foundation Phase is therefore an integrated programme where all students do the same modules. No programme aimed specifically at preparing teachers to teach Grade R exists.

5.1. Lecturers' views of the programme

Three of the lecturers have extensive experience of early childhood education and have been lecturing on the foundation phase programme for more many years, although their experience as teachers was in the former Junior Primary Phase. They also have experience of the types of institutions in the province that provide education in the early years. The fourth lecturer has limited experience of ECD pre-Grade

ISSN 1313-2571, Published at: http://www.scientific-publications.net

one. Two of the lecturers have taught most of the modules currently on offer, while the third regards herself as a literacy and life skills specialist, and the fourth as a numeracy specialist. A number of themes emerged from the interviews with the lecturers.

	First Year	**Second Year**	**Third year**	**Fourth Year**
1st Semester	Numeracy for the Foundation Phase (Numeracy in the early years)	Reception Year Studies Language and Literacy	Integrated Learning Area Studies Life skills Issues and perspectives in ECD	Life skills
2nd Semester	Critical Inquiry in ECD Understanding Child Development	Language and Literacy Creative Arts In ECD	Curriculum Development in ECD	

Table I: Composition of the reception year programme

5.1.1. The philosophy underpinning the Grade R programme

All the lecturers acknowledge the holistic nature of the programme and the importance of learning in an informal manner e.g. through play, fantasy, song etc; they are confident that students are well grounded in the knowledge of child development. Nevertheless they distinguish very clearly between Grade R and the earlier years as they believe Grade R should include a formal approach as well. As it is the policy of government that all children should attend Grade R, they feel this can only be achieved if Grade R is attached to the primary school. Furthermore, they are of the view that it is good for children to become used to the more formal atmosphere of the primary school.

> Roxanne: "….should be part of the primary school- getting children ready for formal school. It should get them 'sorted out' for Grade one"

While there is acknowledgement of the value of preschools that focus only on education for children aged three to six, there is the concern that teachers in the majority of preschools are under-qualified with little or no experience of curriculum development and have little training in Numeracy, Literacy and the Creative Arts. Furthermore they are not trained to prepare children for formal schooling.

> Penny: " Grade R should be a bridging year-there must be informal and formal programmes"
>
> Penny: " At this institution it is offered as having both a formal and informal slant"

5.1.2. Integration in the Foundation Phase

Currently the programme is designed to accommodate students who wish to qualify as Grades R to three teachers- the Foundation Phase. Lecturers all acknowledge the difficulty with this design as Grade R has a different philosophy (although their views do not suggest that they view this philosophy as being as different as research in ECD suggests). Most modules however do include some information on the early years as background to the Foundation Phase. The modules that are on the university books thatfocus exclusively on Grade R and below, are not currently on offer. Veronica pointed out that numeracy is divided into the four grades and that there is a specific structure for Grade R.

5.1.3. Quality of the modules taught on the programme

Lecturers are of the view that the focus on Grade R has been diluted over the last three to four years. The reason given is that the most experienced staff have left and the new staff (who are mostly contract staff) have little or no experience of Grade R.

> Veronica: "Students are complaining now -they don't know what do in the Grade R classrooms"

The problem therefore does not lie only with the module content but with the competence of those who teach the modules. A problem was also identified with the Life Skills programme:

> Chanelle: "Modules should be revisited in the restructuring- especially the modules pertaining to Life Skills- there should be more modules with separate focus areas"

Chanelle also believes that there is repetition in the two life skills programmes and suggests that

> "Modules ought to be streamlined as well".

A further problem was raised by Veronica who is a literacy specialist. The language and literacy modules are common to the ECD/Foundation programme as well as the intermediate phase programme It therefore covers a broad spectrum of literacy across all programmes. Veronica complained that she only had four weeks in each module to teach the Grade R to Grade three literacy. This in itself is a problem, because literacy for Grade R is very different to literacy for Grade one. Grade one learners are required to learn to read and teachers needs a sound knowledge of phonics to teach reading, while Grade R learners are required to recognise letters, but not required to read.

> Veronica: "Students complain that the content of Language and literacy is mostly irrelevant- they do too much of what is required at higher grades. Language and Literacy should have their own FP modules"

5.1.4. The alignment of the institutional programme with the DoE policy documents

While some of the lecturers are of the view that the university Grade R programme should be closely aligned to the national curriculum (whatever that curriculum may be) there is also the view that there should be some alignment but no slavish following of national policies that could change overnight.

Chanelle: "Students should be educated to teach within any curriculum structure"

Those who support a close alignment believe that the teaching focus on the programme should now shift from the RNCS to the Curriculum and Policy Statement (CAPS) document -the most recent policy statement of the National Department of Education. Veronica is of the view that the university programme is not closely aligned to the NCS at all. Very little time is allocated to literacy in Grade R in the modules as they are currently offered. There is a closer alignment between the NCS and Grades one to three than with Grade R.

A closer alignment is found in the life skills programme. The programme has life skills modules and the school curriculum has a life skills programme. However it is acknowledged that the NCS does not provide any information on how the life skills programme should be structured as the NCS covers Grade R separately under each learning area. Unfortunately the life skills programme does not give sufficient training for students in this regard. There is no rationale for teaching life skills in the way it is prescribed either. This is problematic for students as they are required to teaching six learning areas in an integrated way during 25% of the time. While the CAPS has reorganized the life skills programme that may have to be considered in the restructuring of the institution's B.Ed Programme, the rationale for designing it as it did, is still missing.

5.1.5. Grade R in the formal school environment.

Roxanne and Penny hold the view that Grade R has become more structured now that it is part of the formal school environment and because of this, they believe it fits into the Foundation Phase quite well. Chanelle is of the view that it is quite difficult to fit Grade R into the formal schooling environment because of its informal structure, but concedes that it may be better for Grade R to be there. Veronica believes that separate pre-schools are the ideal, because her experience of pre-schools in the previous dispensation is that they are equipped, well–run institutions with qualified teachers. However, if Grade R is to be accessible to all children, her view is that it is better to link it to public primary schools. Veronica fears that many principals have a poor understanding of the purpose of Grade R and may force teachers to enforce a more structured programme.

6. CONCLUSION

This research has highlighted the problems associated with offering an ECD/ Foundation Phase programme of study. The curriculum as offered by this institution does not place sufficient emphasis on the theoretical underpinnings of Grade R with the result that the fundamental difference between Grade R and Grades one to three are not adequately emphasised. The current curriculum focuses more on the formal aspects of the Foundation Phase and minimally on the informal nature of Grade R. Lecturers are aware of the different theoretical underpinnings of Grade R, but are not overly concerned that this is undermined in a programme where Grade R is offered in combination with the Foundation Phase. While they acknowledge the developmental nature of any ECD programme, their view of Grade R is one of a preparation year for formal schooling and some indication of support for the three R's approach as well. There is no indication that the lecturers support a socio-cultural approach to Grade R- which could possibly be the reason for a student's comment that the course was not applicable to the African child.

The findings suggest that quality reception year programmes require a particular emphasis which cannot be provided in a combined programme. However, providing a programme of study to teach in only one grade of the GET phase may not be feasible. A combined ECD programme where students are prepared to teach children in the reception year and younger appears to be a solution. This may however cause problems for prospective teachers as the reception year is the responsibility of government, while schooling for younger children (while the intention has been stated) is not currently administered and financed by government. This has implications for bursary allocations as students who are studying towards a qualification that is not a requirement of the state, could forfeit bursaries. A possible solution appears to be one where dedicated modules covering reception year studies are incorporated in the programme with staff qualified and experienced in reception year studies and a deep understanding of the most appropriate theoretical models to frame the Grade R offering , employed by the institution.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

LEARNING MATERIALS ARE LEARNING SOLUTION

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Abstract

The low quality of primary and secondary education in most Latin America countries is a well-known problem. As a response to this reality, the private educational market has been steadily growing in those countries. These private schools, in general, offer a higher quality and personalized education for the students that can afford it. The main selling point of these institutions is access to better resources: better teachers, technologies, materials and pedagogical methods. This difference in education quality creates a problem once students from public schools reach university.

In this paper we present a project which generates learning solutions (combination of e-learning software, pedagogical methodologies and learning materials) to facilitate the assimilation of new knowledge and the development of new skills even when the student has deficient background knowledge and/or under-developed required skills. The solutions that this project will provide have the potential to be used by all students in the Latin American.

Key words: *education, learning software, pedagogical methodologies, learning materials*

1. INTRODUCTION

The low quality of primary and secondary education in most Latin America countries is a well-known problem. As a response to this reality, the private educational market has been steadily growing in those countries. These private schools, in general, offer a higher quality and personalized education for the students that can afford it. The main selling point of these institutions is access to better resources: better teachers, technologies, materials and pedagogical methods. This difference in education quality creates a problem once students from public schools reach university. The public schooled students have a strong handicap in their performance in a demanding and fast pace environment where professors are more concerned with the delivery of knowledge to large audiences than with catering to the specific needs of each student. This problem is aggravated by the fact that the great majority of public schooled students belong to low-income families. All the problems that arise from this social status in Latin America (need to work at an early age, economical difficulties, etc) also conspire to reduce the probabilities of success of these students. In this light, it is not just understandable, but to be expected, that the private schooled students out-performed their public schooled peers and gain better opportunities at the labor market.

The unequal primary and secondary education system in Latin America contribute to the inflexibility of the social mobility. Students that could afford private primary and secondary education have much better opportunities to have access to high quality universities and to complete successfully their studies. On the other hand, students that due to their socio-economical status only had access to public education have, statistically, a lower chance to enter universities and to obtain a professional degree. This has a negative impact on the competitiveness of Latin American countries, as only the middle- and high-

income segments are fully contributing to the pool of specialized workforce while the talent and potential is uniformly distributed among the whole population. While scholarships and subsidized or free higher education could help to overcome the economic problems of low-income students, the lack of an adequate primary and secondary education has not been directly addressed in the region. While improving public basic education is the ideal solution to the problem, changing current educational structures have proved to be a long-term and difficult project for any country.

The main problem to be addressed during this project is the increased level of difficulty that public schooled students confront during their university studies, compared with their private schooled counterparts. This difficulty results in lower performance and a higher level of dropout. The only way to deal with such great individual differences in the students will be to personalize the learning process for each student according to their current status and capabilities. A feasible and scalable alternative to personalize the learning experience of the students is to use learning technologies to create automated solutions to follow the students during their learning process, identify areas or skills that they require but are lacking, recommend them appropriate content from learning material repositories and guide them trough learning paths adapted to their individual needs. This project will generate learning solutions (combination of e-learning software, pedagogical methodologies and learning materials) to facilitate the assimilation of new knowledge and the development of new skills even when the student has deficient background knowledge and/or under-developed required skills. These learning technologies, initially developed in Europe, could be adapted to provide several “helpers” or “automated tutors” for each learner. Even if not perfect when compared with human tutors, these technologies could help disadvantaged students to receive the extra support needed to overcome the gap with their peers.

The solutions that this project will provide have the potential to be used by all students in the Latin American Universities to support their learning process. However, it is expected that the public schooled students will be the main beneficiaries from these innovations, as they will enable those students to overcome the disparity in knowledge and skills with privately schooled students. In the context of the validation studies, at least 2000 students will be directly or indirectly involved in the different Latin American Universities that partner in this project by participating the pilot courses. If the project proves to generate positive results, this experience will be repeated each academic year and expanded to other knowledge areas apart from the pilot. The local companies are also final beneficiaries of this project. They can increase their competitiveness with new well-educated graduated professionals as their employees. Another final beneficiary group is the Latin American countries, as the know-how increases in the companies the competitiveness of the countries also increases.

In order to assure the dissemination and exploitation of the solutions proposed in the project, the Latin American Community of Learning Objects (LACLO) will be used as a way to reach other Latin American higher educational institutions beyond the project participants during and especially after the project. Also, this project is the first collaboration approach between two existing regional networks, Codewitz in Europe and LACLO in Latin America. All the project partners come from these networks. There are several activities such as a joint conference and virtual seminars during the project to create links between the members of both networks. All the project results are made technically compatible to be shared in both networks.

The objective of this project aligns itself with one of the specific objectives of the ALFA III program, namely, to improve the quality, relevance and accessibility of Higher Education in LA, particularly for the most vulnerable groups. If more low-income students successfully finish their studies despite the deficiencies in their basic education, the project will have a direct, positive impact in the accessibility

ISSN 1313-2571, Published at: http://www.scientific-publications.net

of higher education for a segment of the population (public schooled students) that is usually in a disadvantaged position compared with students that could afford private schools.

This project also supports two of the three ALFA III priorities. First, the adoption of innovative learning technologies to solve current pressing issues will help in the modernization of Latin American HEIs. Moreover, these technologies are aimed to the most disadvantaged group of students and will be implemented in two of the poorest countries in the region. Second, the creation of the solutions will require an intense exchange of ideas, learning materials, tools, methodologies and results in a level not seen before in the region in the area of learning technologies. This collaboration will strengthen existing regional networks, such as LACLO, and will create lasting bonds with European networks, such as Codewitz.

The IGUAL Project proposes the use of innovative learning technologies to help university students from public schools to bridge the knowledge and skill gap with their private schooled counterparts. This project is being developed by the following partners from Europe Union:

- Tampere University of Applied Sciences (TAMK), Tampere, Finland;
- Universitatea Tehnica de Constructii Bucuresti (UTCB), Bucharest, Romania;

and also from Latin America:

- Universidad Autónoma de Aguascalientes (UAA), Aguascalientes, México;
- Universidad de los Andes (UNIANDES), Bogotá, Colombia;
- Escuela Superior Politécnica del Litoral (ESPOL), Guayaquil, Ecuador;
- Universidade Federal do Pampa (UNIPAMPA), Bagé, Brazil;
- Universidad Austral de Chile (UACh), Valdivia, Chile.

2. ANALYSIS RESEARCH

2.1. Analysis of State-of-the-Art Solutions for Personalised Learning Support

LA partners, with the help of European partners, explore the state-of-the-art solutions for Personalized Learning Support developed and/or used in Europe. The partners collect and report the technologies used, promising results and good practice. This report will serve as base to select the technologies to be adapted to the Latin American needs and context. Each LA partner will assign at least one researcher to contribute to the report. This activity is conducted in parallel with the Need Analysis. Output will be one state-of-the-art report about European technologies for Personalized Learning Support

2.2. Data collection for Needs Analysis

In order to determine the specific need of personalization that public schooled students have at the University, all LA partners will apply common questionnaires to their students and professors. Both LA and European partners discuss and approve the questions and the form of the final questionnaires. The overall activity is coordinated by the project coordinator. All LA partner will make necessary translations of the questionnaires and will apply them to their own students and professors. Each LA partner writes a report about their findings from the results of the conducted Need Analysis. Output will be a Questionnaire, results and also a Draft Need Analysis Reports

2.3. Need Analysis and Needs Analysis Meeting

To unify the view of all the partners about the need analysis, ESPOL will coordinate the on-line discussion and the writing for the final report. To conclude the Need Analysis report, all partners will send a delegate to a meeting and visit to UNIANDES, Colombia. During this meeting the final discussion about the need analysis will take place and an agreement is reached over its content. During this meeting also, the Needs Analysis is contrasted against the State-of-the-Art report to establish the best European learning technologies to be adapted to address the knowledge and skill gap between public and private schooled students through the adequate used of automated personalization. Output will be Recommended Technologies Report

3. PROPOSED SOLUTIONS

The overall objective of this project is to improve the accessibility of higher education in Latin America for students from public schools. There is a measurable gap between the quality of education between private and public schools in most Latin American countries. This gap has an immediate impact on the level of accessibility to higher education for each one of those groups. Students that come from the public schools have a lower probability to enter higher education institutions and also an even lower probability to finish successfully their studies. While there are several factors that are responsible for these results (need to work while studying, lower expectations), the knowledge and skill gap between private- and public-educated students is a key problem that aggravates the others. This project will propose innovative, contextualized solutions, based on proved learning technologies, to help students with a public school background to rapidly close the gap and compensate for handicaps in their basic education.

The specific objective of this project is to create and validate innovative and contextualized solutions to reduce the knowledge and skill gap between private- and public-educated students. These solutions will help the student to acquire new knowledge and skills, providing individually directed support based on the particular background and profile of the student. The personalized learning solutions will early detect problems with the students' knowledge and skill background, suggest students to review topics that were not being well covered in their basic studies and to recommend the student with activities to improve the level of their under-developed skills. Students with the public school background can use these tools to cope with deficiencies in their previous studies and to be up to par with their peers from private schools. The effectiveness, efficiency of the different solutions, as well as their positive impact in the students from public schools, will be evaluated and validated through their concurrent application and evaluation in all Latin American institutions that partner for this project. The application area will be introductory computer programming, where the gap between public and private basic education is the widest due to the limited access to technological resources in public schools.

ISSN 1313-2571, Published at: http://www.scientific-publications.net

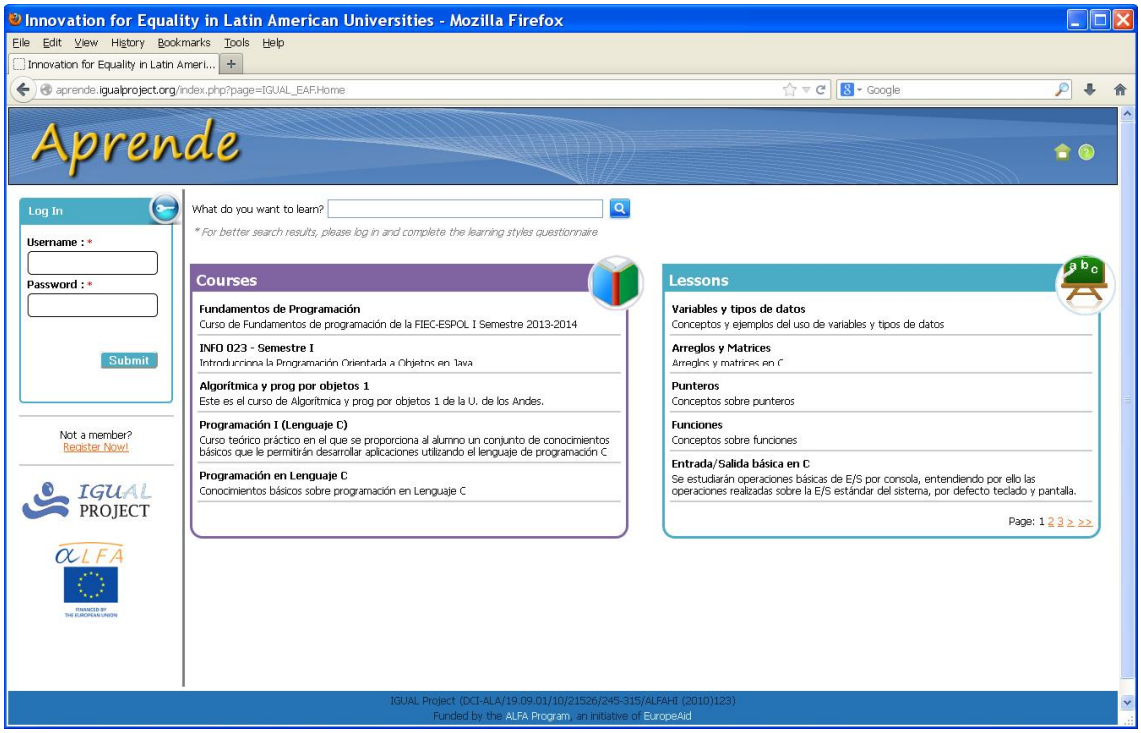

Fig. 1 http://aprende.igualproject.org/

The Latin American partners tackle the common problem of accessibility of the university studies concretely by delivering 6 learning solutions. The solutions put all their emphasis on enabling easier learning process for those students who have weaker background to catch up with the basic level of knowledge required in the university studies. These solutions would help to reduce the knowledge and skill gap between public and private schooled students. The solutions to be developed during the project are:

- Adaptive Learning Materials, which provides a methodology and tools for the easy creation of content that adapts to the student's specific needs. For example language, learning style, way to access the material, etc. This solution will be coordinated by UNIPAMPA, with the support of UAA, UNIANDES and TUCEB.
- Problem Solving Protocols which provides a way to adapt not only the content, but the process needed to solve a problem, depending of the mental models of each student. This solution will be coordinated by UAA, with the support of UNIPAMPA, ESPOL and TUCEB
- Adaptive Learning Design is a solution providing a methodology and tools for the creation of learning paths and designs in a way that enable the automatic adaptation to the students background knowledge and skills. This solution will be coordinated by UACH, with the support of UNIANDES, UNIPAMPA and TAMK.
- Social Sharing and Recommendation of Learning Materials is a solution for integrating familiar social media features into the process of sharing and recommending learning materials. This solution serves also as the main valorisation channel as all produced solutions and learning

ISSN 1313-2571, Published at: http://www.scientific-publications.net

materials are distributed freely as open source through the platform. This solution will be coordinated by ESPOL, with the support of UACH, UAA and TAMK.

- The prefix “non” is not a word; it should be joined to the word it modifies, usually without a hyphen.
- Evolving Adaptive Framework this solution will provide the students an integrated and personalized way to access and use the other solutions created in this project. This solution will be coordinated by UNIANDES, with the support of UACH, ESPOL and TUCEB.

To evaluate the efficacy of the solutions in reducing the gap between public and privately educated students, the solutions will be tested in real environments through pilot courses. Once implemented, these solutions will be integrated in 6 pilot courses (one in each Latin American partner university).

The Introductory Programming course is chosen given that it provides the stronger difference between public and privately educated students. During the project around 2000 students are estimated to participate on the pilot courses in the Latin American partner universities. For the pilot courses and for the use as part of the learning solution minimum 120 learning materials are made.

The production of materials does not necessarily mean a production of new materials, but all the resources (like university materials, Codewitz Network, etc.) are used to collect needed materials. The most of the materials needed are expected to exist as freely usable already and only adaptation and technical standard work is required.

The solutions and the pilot courses with the materials are published as open source. Those solutions and courses are available for any university to re-use them through the social sharing platform.

The actions of the project are divided in 5 sequential phases:

A. Setup of the Project

In this phase, the infrastructure and guidelines for the project operation will be set. The technical infrastructure, such as a project portal will also be set.

The main objective of this phase is to allow the partners to collaborate in the project activities.

B. Analysis

In this phase, the state-of-the-art and the need analysis will be produced by all the partners.

The objective of this phase is to identify the local problems related with the gap between public and private schooled students and the solutions that technology enhanced learning have produce to address personalized education.

C. Design and Implementation of Innovative Learning Solutions

In this phase, 6 independent teams will design and implement the proposed solutions.

The objective of this phase is to contextualized existing solutions to personalize learning. Each one of the teams will produce a different solution, but all focused on help public schooled students to reduce the gap with their privately schooled counterparts.

D. Testing, Result Analysis and Quality Assurance of the Solutions through a Pilot Experience in Programming Courses

In this phase, the infrastructure and guidelines for the project operation will be set. The technical infrastructure, such as a project portal will also be set. The main objective of this phase is to allow the partners to collaborate in the project activities.

E. Dissemination and Technology Transfer

In this phase, the results of the project will be presented and promoted outside the group of original partners. The objective of this phase is to disseminate to other universities in Latin America, those solutions that have proven to be effective in reducing the knowledge and skill gap between students.

There is also administrative and coordination activities that are transversal to the mentioned phases. As the partners work in different learning solution teams with different content for the same overall goal the main concern is how to get the separate outcomes to be easily connectable with satisfactory quality. This very important characteristic is assured and controlled by the detailed and structured standards and guidelines in the quality plan. The quality plan serves as the core for the project work. It defines the methods for implementation and processes of all the project tasks as well as the methods and deadlines for the delivery of the outcomes. The quality plan defines the technical guidelines for the outcomes to assure the outcomes are easily connected and integrated with other outcomes.

4. CONCLUSION

In conclusion, the specific solutions of this project are:

A. Design and Implementation of Innovative Learning Solutions

Given that several groups will work in parallel to develop different solutions, a set of technical standards will be set to ensure the interoperability of the different solutions. The topics to be agreed during those discussions are for example learning material metadata standards (Dublin core or LOM etc.), packaging standards (SCORM or IMS or LAMS etc.) and communication standards (SQI or OAI-PMH etc.). All partners participate in the discussion and the task coordinators will publish a final document. The use of appropriate standards ensures the maximum exploitability of the solutions. All partners will follow the agreed standards that will be included in the quality plan document.

B. Designs and Implementation Plan for the Learning Solutions

Different solutions based on learning technologies will be proposed as ways to reduce the gap between private and public-schooled students in Latin American Universities. These solutions will exploit the research conducted in several areas of learning technologies in Europe and Worldwide. Each solution will be designed and implemented by development teams. The first partner in the development team coordinates the work. The tentative solutions, pending confirmation by the need analysis, are the following:

C. Adaptive Learning Materials

Adaptive Learning Materials, which provides a methodology and tools for the easy creation of content that adapts to the student's specific needs. The development team enables and produces adaptation to 100 learning materials.

D. Problem Solving Protocols

Problem Solving Protocols, which provides a way to adapt not only the content, but the process, needed solve a problem, depending of the mental models of each student. For the pilot courses the development team will produce 40 problem protocols.

E. Adaptive Learning Design

Adaptive Learning Design is a solution providing a methodology and tools for the creation of learning paths and designs in a way that enable the automatic adaptation to the students background knowledge and skills. The development team produces accordingly 60 learning designs for the use in the pilot courses.

F. Social Sharing and Recommendation of Learning Materials

Social Sharing and Recommendation of Learning Materials is a solution for integrating familiar social media features into the process of sharing and recommend learning materials. This solution serves also as the main valorization channel as all produced solutions and learning materials are distributed freely as open source through the platform.

G. Evolving Adaptive Framework

Evolving Adaptive Framework this solution will provide the students an integrated and personalized way to access and use the other solutions created in this project.

The main precondition and assumption in this project is that the knowledge and skill deficiencies of public schooled students are a major reason for their under-par performance at university and the failure in obtaining professional degrees. If economical or social factors have a much bigger influence in their performance, the impact of the solutions proposed in this project would be negligible, However this assumption is well based given that even students that have public scholarships and have no major family issues, still present the same type of performance-related problems.

ACKNOWLEDGMENT

This work was supported by supported by European Union's ALFA programme an initiative of EuropeAid, IGUAL Project DCI-ALA/19.09.01/10/21526/245-315/ALFAHI (2010)123.

The authors thanks for assistance in the preparation of this paper to IGUAL team.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

EDUCATIONAL BELIEFS AND TENDENCIES OF THE ROMANI TINKERS INHABITING THE THRACIAN REGION /ROMA SUBGROUP/

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Abstract

This article presents data obtained from theoretical and empirical study on one of the most closed Romani group in Bulgaria – that of the Romani tinkers inhabiting the Thracian region – regarding their educational beliefs and stereotypes. The article also treats a problem of the present day concerning the school attendance and prevention of school dropping out of children from the Romani ethnic group and recommendations for overcoming the negative trends resulting from illiteracy, which also affect modern globalistic society.

Key words: *Roma subgroup, education, integration, problems*

There is a huge pile of problems concerning the education of children of Romani origin in pre-school and school age. These problems have been standing unsolved for many years, they have been accumulating one after the other in the course of time but lately these problems have received even greater impact while the population share of Romani children is growing higher, and their inclusion and keeping in the educational system becomes a task tremendously hard to achieve.

Considerable expansion of the social horizon and improvement of life perspectives for those children is required. This is possible to achieve by means of getting to know each other and participation in joint socialization activities between Romani and Bulgarian children since earliest childhood age. In this respect it is absolutely important to ensure equal access to quality y education for the coming generation living in the distinct Romani-inhabited neighborhoods, which exist in almost every town or village in Bulgaria. (М Илиева 2012г. Съвременни образователни тенденции и предизвикателства в предучилищното образование и ранната детска възраст на ромските деца в България)

After the democratic changes in Bulgaria and especially after the 1999 adoption of the Framework Program for Integration with Equal Rights of Citizens of Romani Origin into Bulgarian Society" (Рамкова програма за интеграция на малцинствата 1999), and further the 2012 adoption of the National Strategy of the Republic of Bulgaria for Integration of Citizens of Romani Origin (2012-2020), ('Националната стратегия на Република България за интегриране на ромите 2012-2020г.) actual possibilities for Romany citizens and their children in Bulgaria were created. Education was outlined as a major priority in view of practical implementation.

The positive results from the implementation of different programs and projects in previous school years in the sphere of educational activities, interactions and extracurricular activities indicate the need to promote further the interactive collaboration of all institutions aimed at gaining wider public support and changing the beliefs, thinking and actions of society. It is a process extending in time and requiring continuance and dedication for interactive collaboration. (М Илиева 2012г Образователни тенденции и предизвикателства в предучилищното образование и ранната детска възраст на ромските деца в България)

The knowledge acquired at school is not the only knowledge for the person's lifetime. Children should acquire more and more knowledge, therefore their education should be tailored to acquire such a level of knowledge, skills and interests that could guarantee the furtherance of his/her active, unaided and fruitful learning.

Due to a series of negative circumstances in Romani communities, a major part of the children of Romani origin do not attend school, their intellectual development lags behind and they remain illiterate or just somewhat literate, which leads to lesser opportunities for realization of their capabilities in different spheres of human activity.

This lasting isolation of the citizens of Romani origin and their inadequate involvement in public activities leads to lesser possibilities for integration of Romani adults and youngsters in the national society as a whole. In time, this isolation process gets deeper and deeper and will still more sensitively hinder the integrative processes going on in the public relations. (М Илиева 2011)

Children who have grown up in a comparatively closed or isolated Romani community until school age have communicated with other people predominantly in their mother Romani language. (А Стойков 2012)

When such children start to attend school for the first time, they find themselves on unequal footing. They are required to learn new educational matter which is instructed at a language that they do not know. If they happen to be in class with children fluent in Bulgarian language, usually the Romani children lag behind in their academic progress and develop signs of insecurity, lack of self-confidence and lowered self-esteem. In a majority of cases, this leads to reluctance to study, embitterment to the ones who are doing better in school and self-isolation.

The psychological characteristics of modern time Romani people remain unknown not only for the lack of insufficient studies in this direction but also for a number of other factors that need to be taken into consideration: language, socioculture, traditions and customs, moral values, goals, etc. The Romani people live in two worlds, two cultures, two societies.

The Constitution of the Republic of Bulgaria guarantees the right to education for each and every Bulgarian citizen. The fact is, though, that thousands of children in Bulgaria drop out of school each year. Different sources state different information. According to data of the Ministry of Education the number of dropouts approximates 60 000 children. Civil organizations state that the number of such children exceeds 120 000. Each year thousands of children condemn themselves to life in unemployment, dependence on social welfare, and isolation.

Considering the growing number of children who drop out of school - 18766 in school year 2010/2011 according to data of the National Statistical Institute, it is obvious that a long-term sustainable change including beliefs and behavior analysis of different groups within the Romani community seems impossible unless preventive measures are taken. (http://www.nsi.bg/)

In order to track the process of school dropping out and to reveal the relevant reasons and also to point out effective mechanisms for provision of services aimed at school dropping out prevention in the community of Romani tinkers inhabiting the Thracian region, a theoretical and empirical study was conducted in Stara Zagora Town by asking 50 women to fill out a questionnaire of 30 questions, grouped into 3 main panels.

Stara Zagora Municipality is situated in the central part of Southern Bulgaria. Stara Zagora Town is a major administrative and territorial center of the Thracian region. It is the sixth larger town of Bulgaria. Stara Zagora is theCounty and municipal center. Stara Zagora Municipality comprises 51 settlements,

of which one town and 50 villages. As on 01.02.2011 the total population amounts to 126 554 inhabitants. (http: //www.starazagora.bg/)

Stara Zagora Municipality is distinguished by a huge ethnic diversity with representatives of nearly all ethnic groups – Bulgarians, Romani, Turks, etc. As for the predominant part of the country, in Stara Zagora Municipality too, the Romani ethnic group faces most serious integration problems, because of the high unemployment rate, poor education and low quality of living conditions. According to local non-governmental organizations, there is a marked tendency in the municipality concerning the dropping out of children not only from the Romani ethnic community, but also children from the Turkish ethnic community. Stara Zagora Town includes one of the largest distinct Romani-inhabited neighborhoods called „Lozenets"[1], whose population exceeds 28 000 inhabitants.

Therefore, a summary analysis of interviews and observations in the community of Romani tinkers inhabiting the Thracian region was made in order to figure out some of the reasons for dropping out of school and non attendance of school classes.

The goal of this theoretical and empirical study is to determine the conditions for implementation of different forms of school activities, to figure out the main reasons for children's dropping out of school and to recommend appropriate interventions for solving these problems.

There are several reasons for the conduction of this theoretical and empirical study:

1. there is a closed traveling Romani group;

2. the dropping out of school affects the whole socialization process;

3. there goes a two-stratal stigmatization of the Romani (in the macrosociety and within the community).

There is no exact data about the number of representatives from the group of Romani tinkers inhabiting the Thracian region, but also about each subgroup of the Romani community as a whole. The data obtained form the last census in 2011 show that there is a group of people - 53 391 inhabitants, who did not determine their own status. (http://www.nsi.bg/)

One such closed Romani subgroup is the subgroup of Romani tinkers inhabiting the Thracian region. Presently, this group is mobile. Families would usually settle by 2-3 per village or town with the purpose to ensure for every family „means of living". Before year 1992 it was usual to see every now and then representatives of this group walking around residential buildings in towns and village streets offering their services publicly by shouting „tin-plating, tin-plating". Today, though, this group makes a living by retail sales of bed linen, clothes or recycling old cast iron radiators (once used for central heating), water heaters and other electric appliances.

It is an interesting fact that usually it is the woman who would negotiate the „deal". The town of linden trees, straight streets and poets is also known for the so called „brides market" organized on St.Theodore's Day, when the Romani tinkers inhabiting the Thracian region gather together from all over Bulgaria.

Social and demographic structure of the sample

The participants in the questionnaire study comprise Bulgarian citizens of Romani origin from the subgroup of tinkers inhabiting the Thracian region, women. The total of 50 women was inquired.

[1] According to data provided by the non-governmental organization "World without Limits"

In terms of age representation, the sample is very wide and diverse since the youngest participant is an 11 years old girl and the eldest one is 64 years old. There is some unevenness in the age distribution of participants because the largest number of questionnaire respondents was aged between 16 and 23 years and that makes up 81% of all participants.

The marital status of respondents is also very diverse. Most of the women 46 (92%) live in domestic partnership with their partners, without official marriage, 12 (6%) of them are officially married and 4 women (2%) live on their own, without a partner.

The next demographic criterion is the educational background of participants. They were grouped in the following educational categories – initial 4 years of education, 8 years of (primary) education and 12 years (secondary) education. The biggest percentage in the sample is made up of the respondents with 4 years of education – that is 35 (70%) of women. 12 (24%) of the participants have completed 8 years of education or at least incomplete primary education. The other 7 (14%) of participating women have never attended school at all. Although women with primary education prevail as a whole in this sample, it is worth noticing that there is a respondent without any education at all - 1 woman (2%).

This gives very serious characteristics, which are indicative of just how vulnerable the women from the group of Romani tinkers inhabiting the Thracian region are. When a husband abandons a young woman, she has quite limited and disadvantageous opportunities for her future. Her stigmatization in the community as an „abandoned" woman which is equal to a moral condemnation as an „immoral", „bad", „light" woman, the pressure from the family to start another domestic partnership/non-marital relationship, the limited possibilities for employment due to her low educational level and the lack of material resources for raising her child sometimes force young women to seek the alternative of institutional placement.

When the participating women were asked which were the highest risks for dropping out of school 48% of respondents answered that it was the family. It is interesting to note that the willingness for continuing education was a priority for as little as 16 women (8%) of the respondents.

If a „collective" portrait of a participant in this questionnaire study should be made, it will look like as follows: a woman of Romani ethnic origin aged 21 and older, living in domestic partnership with her partner in a traveling way of life; poorly educated, unskillful and unemployed.

Family planning in Romani families

Due to economic capacities (in particular traditions too play a role) one house in „Lozenets" neighborhood is coinhabited by two or more households. Family structure and hierarchy are strictly defined. The emphasis of this study is laid on the prevailing educational beliefs and tendencies in one of the most closed Romani groups.

The major part of interviewed pregnant women has 1 child. The fact that there is still a small percentage of women with more than 4 children – 16 (8%) of the respondents - should not be disregarded.

The most commonly used contraceptive means by Romani families is the interrupted coitus, which was indicated by 46 (92%) of interviewed women. As little as 4 women (8%) said to be using intrauterine contraceptive device (IUCD).

An important result of this study is establishing the fact that women of Romani origin are afraid of having IUCD or using other contraceptives. This fact is due to the traditions and the existing myths and beliefs in their community, which have become inbred in their everyday life. The major opponents for the use of contraceptives are the figures of the mother-in-law and the husband. Therefore, it must be

assumed that the family planning consultations should actively include „support winning" activities targeted especially to the so called „influence center" of the young woman, including the mother-in-law, the husband, the husband's sister. In the course of conversations with women, they all shared some of their fears, which are quoted below:

- "IUCD may get stuck in your lungs";
- "IUCD causes body hair grow and weight gaining";
- "IUCD causes sterility";
- "IUCD is "creeping" inside your body;
- "IUCD will stop your menstruation cycle";
- "IUCD causes cancer and other diseases";
- "IUCD is felt by the man during sexual intercourse";
- "The doctor may harm me";
- "If you have an IUCD, then you must be going out with "other" men;
- "The doctor may kill the baby".

For the same reasons major part of pregnant women go to see a gynecologist as late as the 7th month of their pregnancy for fear that „the doctor may do something wrong".

This situation presupposes that people from the entire community should be actively involved in the design of programs and policies focused at the above issue. It is necessary and absolutely important for the Romani community to get involved and participate in all levels of implementation of program and projects whose target group is the Romani population – from the conceptual phase through the implementation of each and every objective and activity, to the project management and program and policy monitoring. Unfortunately, there are very few examples of consultative vote when decisions concerning the community have been made.

It is an alarming fact that 42 (84%) of interviewed women shared to have willingly terminated at least once their pregnancy, and 8 women (14%) stated that they have had more than 3 deliberate abortions. They either do not know who their family doctor is or do not have one - 5 (10%) of the respondents. Here it should be pointed out that not everybody who has a family doctor has actually any medical insurance.

Decisions about having another child in the family are made by the husband actively aided by the mother-in law. This old woman's opinion is much respected and honored in this community. There dwells the belief that the use of contraceptives is an indication that the young woman has cheated with a man who is not of Romani origin.

The next group of questions is focused at the most favorable (preferable) age for marriage, for having a first born child and for building plans for the future.

The best part of the sample - 34 women (68%) would like their children to get married after turning 15 years of age, 12 women (24%) stated that they would like their children to get married or start living in a domestic partnership after turning 16 years of age. The remaining 4 women (8%) of the respondents consider the age between 18-19 years to be the most favorable.

When analyzing this aspect there could clearly be discerned two types of beliefs. One is the typical pattern recognized by the macrosociety of early starting a domestic partnership, which has been advocated and supported by the older generation of the Romani community. The second pattern started to gain grounds in recent years and it is actually that to start a family one has to be emotionally and psychologically stable and of full legal age.

As to the best age for having a first born child 36 women (62%) of the respondents stated „after full legal age", for 10 women (20%) it was the age between 16-18 years and as little as 4 women (8%) said that the age of 15 was an appropriate age. The analysis of the answers given to those questions will give the correlation with the respondents' educational background.

Educational beliefs of the Romani tinkers inhabiting the Thracian region

The question of whether their school-aged children were regularly attending school was answered as follows:

- The school-aged children of 43 of interviewed respondents do not attend school regularly, which makes up 86%.
- The school-aged children of the remaining 7 interviewed respondents attend school regularly, which makes up 14%.

The school-aged children who do not attend school help in the family earning a living – cracking walnuts, picking up chestnuts and doing all kinds of seasonal work or other profitable work performed by their parents.

The question trying to reveal the parents' system of values and whether they are driven by material or spiritual motives was answered as follows:

The following matters to me the most (more than one answer is possible):

- „money"- answered 48 of interviewed women (96%);
- „nice things"- answered 32 of interviewed women (64%);
- „how peoples relate and treat each other"- 11 of interviewed women (22%).

None of the answers given by the respondents included books or education.

When asked about the reasons/motives for sending their children to school, the respondents answered as follows:

- „to learn something"- 33 respondents or 86%;
- „because they like it"- 13 respondents or 26%;
- „other"- 4 women or 8%, gave answer that had no direct relevance to the subject-matter of this study.

A major driving force in the Romani community which is powerful also in any other subgroup and divisions is the influence of the informal leader of their community. This figure may be different – it could be the old grandma in the cafe that everybody chats with, or a middle aged man, either a tradesman or the local pastor who are valuable influential figures. In the community of Romani tinkers inhabiting the Thracian region, though, it is always the eldest man whose word is honored and respected the most. The Romani tinkers inhabiting the Thracian region do not have the practice of organizing a moral court /meshere/.

There was an opinion that parents would not let their children go to school - „for fear of being stolen by the girls“, or „because the weather is bad“, „they cannot catch up with the teachers' requirements" etc. When I continued my conversations with those women informally I asked them what was the connection between mathematics and virginity and they all answered after a several minutes break „there is no connection but THAT'S THE WAY IT IS IN OUR COMMUNITY“. The process of getting to know each other, the rediscovery of Bulgarian culture is the key to interculturality because definitely fear of the unknown is present. It is not easy to win the trust of Romani parents when they are not familiar with the environment and perceive the surrounding as foreign and hostile. Combining elements from different culture in one lesson and revealing different horizons one after the other will enable us to enlighten the future of Romani children.

The opinions expressed by respondents about how they see the perfect future of their children coincide with the most prevailing ones and do not differ significantly from the majority of expectations.

- „I want my child to have a future";
- „I want my child to be taken good care of";
- „I want my child to have a good and well paid job";
- „I want my child to live independently and have his/her own place to live";
- „I want my child to be respected";
- „I want my child to have a good car";
- I want my child to be hardworking;
- I want my child to be honest, not a liar;
- I want my child to be well educated;
- I want my child to respect his parents and family values.

As the findings of this study showed the main identified problems appeared to be the serious economic difficulties and bad living conditions; deficit of community-based services in Stara Zagora Municipality; minimal possibilities for children care in the community; limited access to community-based services because of lack of information or restricted access /due to unpaid social security and medical insurance contributions, unawareness, etc./; lack of sexual education for the girls; the early age of motherhood; poor preparation for birth giving and parenting.

As a result of this theoretical and empirical study it was established that a child/family is at risk of dropping out of school due to any of the factors below or to a combination of them:

I.Problems associated with the economic situation:

1. Poverty of many Romani families – parents cannot afford to buy their children the materials required at school, parents are using child labor.

2. Bad living conditions - when living in poverty and one's everyday needs are far from being satisfied, then according to Maslow pyramid it is only normal all efforts to be focused on daily survival.

3. Economic problems of schooling system – bad or completely missing material resources, modern bilingual programs are not implemented, pre-school aged children are not sufficiently included in the educational program.

II. Problems associated with beliefs dwelling in the Romani community: Education is not viewed as a priority by a very big part of Romani families, few opportunities for educated people to find a suitable job, want of examples of people prospering thanks to education, early marriage and early motherhood, big families, living in isolated Romani neighborhoods (the ghettos), reluctance of the child to go school, fear of going to another town, fear of „being stolen", negative attitude to education on the part of the parents themselves and/or the child, because they have dropped out of school because of child birth and motherhood.

III. Problems associated with prevailing beliefs:

1. poor motivation of teachers to work with children of Romani origin – most of the teachers who work in differentiated schools feel like exiled. They lack sufficient training for working with children of this minority group. Usually teachers from other schools treat negligently their colleagues from schools of ethnically homogenous students.

2. attitudes of the surrounding to the Romani - in the majority of cases, students who continue their education in schools outside their neighborhood are not well accepted from their peers and teachers.

IV. Problems associated with the educational system and governmental policy: language barrier, incomplete inclusion of preschool-aged children, there are no teachers of Romani origin, unattractive curriculum, differentiated schools, lack of study rooms, lack of extracurricular activities.

V. Other problems: prostitution, injury or disease in the family/the child or the parents, institutionalized children, lack of parenting skills, new relationship/partnership of the parent caring for the child, the whole or member of the family leaving for aboard, working at home, conflicts in the family, problematic relations of the parents (divorce, new partners, alcoholism, battery), lack of parental control and parental involvement;

The above problems were grouped only for ease since they are all caused by a complex of reasons. The main conclusion to be drawn is that these problems account for the poor educational level of Romani children, which in the long run will aggravate the structural unemployment in the community and will marginize it to such an extent that it will be close to impossible to overcome. Therefore, it is necessary to conduct a dialogue between all concerned persons in order to arrive at effective solutions for changes in the Bulgarian educational system.

The data collected and presented above definitely show that at this stage the educational system is not organized in such a way as to take into account the specificity of Romani community. The techniques for eliminating deprivation and frustration of Romani children who find themselves in the school environment with no preparation at all are not yet regulated in the schooling system. Starting school without knowing the languages, without having learnt the rules, norms and skills for handling everyday situations outside the family have proven to be stressful for the child and put a barrier between the child's desire to socialize with other kids and the requirements posed by the school on equal basis with his peers who have already been through this process and feel much more comfortably in the school environment. Getting Romani kids involved since early childhood in intercultural and interactive technologies will rouse their interest in the school institution and will raise their self-confidence as able to handle on his/her own different situations in the everyday and school life and will incite their willingness and interest in school attendance and meeting school requirements.

The educational process is a creative activity. This presupposes insight understanding of the diversity of problems that children face regardless of their lifestyle, culture, ethnos and nationality. For Romani

children this process is refracted through sometimes inhuman living conditions of children and adults, cultural confrontation, discrimination, unemployment, complete or partial illiteracy.

The involvement of parents in school life, acquainting teachers with the specific features of Romani ethnos is a good footing for co-education based on intercultural understanding; that on its turn will help overcome the existing negativism of teachers to the capabilities of Romani students and will be a prerequisite for mutual understanding and tolerance, which is a must for a postindustrial society. Romani children need to have a role model and stimuli to look after. And they can have it, indeed. Either by creating preparatory classes in the schools with Romani students, or by introducing special programs; by creating study rooms for students who are slow to progress with studied matter, and respectively for the children who are not fluent in Bulgarian language.

As a result of this study the following conclusions may be drawn:

1. It is necessary to synchronize the programs of different institutions and organizations which deal with the educational integration of children from minority groups – ministries and agencies, local government authorities, universities, NGOs. The municipal strategies and developmental plans should be harmonized with the National strategy for integration of the Romani living in Bulgaria. This requires that public electronic media establish a suitable program policy in order to increase public perceptibility for the problems experienced by minority groups and the intercultural interactions and to promote the cultural pluralism in society. Another cornerstone is the implementation in practice of such documents and ensuring their financing through grants from European programs and projects.

2. Ongoing monitoring and annual assessment of the educational integration by guaranteed involvement of minority group representatives in these processes. In practice, this would mean that it will be necessary to involve experts from minority groups who would take part in the planning and conduction of monitoring in the educational system, by designing together recommendations for improving the quality of education, especially in schools of ethnically homogenous students.

3. Strengthening and supporting the intercultural education by the curriculums. Believing in own's own strength makes children more cooperative in jointly performed activities both with peers and with adults. The curriculum includes games that are close to the culture of those children which will stimulate their mastering of skills for team work and activity planning.

4. Persistence on the part of teachers to involve the parents of Romani children. Because of the serious difficulties experienced in Bulgarian schools and also because of the environment where they are growing up, Romani children and their parents quite often lack the patience and the willingness to put much effort in order to succeed. That is why it is important that the work never stops and to progress with small but concrete steps by praising each and every success, no matter how small or insignificant it may be! It is necessary to spend more time and effort for including children as early as possible in Kindergartens and to study Bulgarian language by gradually including and involving their parents in school life and by rousing their interest. This could be done by practical application of intercultural education in the optional elective classes, the class hour and other extracurricular forms.

5. Changes in the educational regulations regarding the completion and passing to higher grades without having mastered the minimum amount of knowledge. This way Romani children complete fifth grade practically illiterate in the majority of cases.

6. Stimulation for active seeking of extracurricular forms and support from the children themselves. The goal is to make children seek help and advice from their parents, to get them involved

ISSN 1313-2571, Published at: http://www.scientific-publications.net

instead of being „influenced“by people outside the family. Identification and awareness about innovative intercultural programs for education of Romani children and their inclusion in the curriculum.

Despite the fact that this theoretical and empirical study is not representative for Bulgaria or Stara Zagora County, still it gives some information about the beliefs, the risk factors and the possibilities for development of education and prevention oriented services to be provided in Romani community, especially in the larger differentiated Romani neighborhoods.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

PUPILS' ACTIVITIES AND LEARNING PROCESS EFFECTS

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Abstract

Pupils' activities are the essence of the educational process and bound to be the outcome of the teaching content and objectives. The success of the teaching objectives realisation depends on the quality, structure, planning, systematization and differentiation of the pupils' activities. At the same time, the learning process effects are conditional upon the didactic-methodological features, the quality and systematization of pupils' daily activities.

Key words: *pupils' activities, learning, success in teaching*

1. INTRODUCTION

The numerous projects in the Republic of Macedonia realized in the past two decades[2] have resulted in improvement of the programmes in all of the areas of the educational process indicating the very methods, strategies, and class-teaching forms which point out the significance of active inclusion of the pupils in the teaching-learning process. Despite the innovations in the educational process, the teacher's daily practice still contains the problem of operationalization of the objectives generally set in the subject plan and their optimal realisation with a choice of most adequate didactic-methodological solutions. Thus, the teacher's task becomes more complex due to the necessity to bring the pupils' activities into correlation with the subject curriculum content and the aims. On the other side, nowadays, the curriculum content for primary school subjects already offers pupils' activities and those are often applied by teachers when teaching although they are to be used only as examples which would spur more creative solutions and not to be regarded as ready-made everlasting samples. So far, the analyses of the course curricula of the first and second cycle of primary education have shown that a large number of the objectives of the subject curriculum content are designed to develop competences in acquiring knowledge and the utility of the same, which makes the selection of activities fall upon the realisation of those objectives. In order to indicate the essence of this problem, our paper also focuses on the activities aiming at the development of cognitive competences, emphasizing that - in practice and in the further research of the said, a greater attention should be paid to the definement of the activities which are to influence the affective aspect of personality development. Namely, the complexity of the affective sphere is the cause for the difficulties when determining the precise objectives and arranging of the same on the scale of hierarchy according to their complexity, which largely determines the teacher's selection of activities for this field.

Therefore, with our paper, we want to give an illustration of the educational practice, from the aspect of pupil's activities, more accurately, about their characteristics and their significance. We would also like

[2] A list of projects realized in the educational field in the Republic of Macedonia, in the past two decades, see Б. Камчевска. (2006): 52-78.

to indicate the fact that the didactic-methodological solutions in the realization of the teaching objectives must be in correlation with the structured pupils' activities, which will contribute to the improvement of the effects in the process of teaching. In that regard, this paper is an attempt to set a base for using the empirical research knowledge to initiate further profound analysis of the complex problems associated with the pupils' activities concerning operationalization, structuring, differentiation, optimal realization etc. It will necessarily improve the process of learning the subjects of the natural sciences and social sciences[3] in the first and the second cycle of the primary education, as well as it will the process of learning in all fields in general.

2. THE COMPLEX NATURE OF PUPILS' ACTIVITIES

In order to be able to successfully grasp the nature of pupils' activities, it is essential that our starting point be *S. Adamcheska's* stand on teaching activities, according to which they are related both to the teacher's actions during a class and the pupils' activities of the cognitive nature performed indoors and outdoors. In line with this, the activities to be implemented in accordance with the functional and educational tasks are classified as: *pupils' activities within the framework of educational tasks* and *pupils' activities within the framework of functional tasks*, which, depending on the field of activity, are classified as: *psychomotor and cognitive activities*[4]. We can define the comprehensive nature of activities if we consider the stand of *N. Havelka* by which it is stated that learning is a set of activities that change the personality of the pupils and that the activities performed with awareness bring about permanent positive changes in pupils' personalities[5]. Depending on the objective of the class and depending on what competences are being developed with pupils, according to some authors, the following types of activities can be distinguished: *cognitive, motor, receptive, productive, reproductive, creative* etc.

There are numerous pupils' activities that constitute the contents of the teaching. In order to clarify the subject of this paper research, we present our insight into some of the types of activities, their classification, and key features. Namely, on the basis of the analysis conducted, and depending on the part of the personality development that is to be spurred and developed, we will classify the planned pupils' activities as: *activities for development of cognitive competences, activities for development of psychomotor competences* and *activities for development of affective competences* of pupils. For instance, within the cognitive development domain (acquisition, development and application of knowledge, and cognitive skills), some of the specific activities that spur and stimulate cognitive

[3] In our country, the subjects of natural and social sciences in the first and the second cycle of the primary education encompass contents of various natural and social disciplines, which are pedagogically and psychologically elaborated and included in the subjects Introduction to the Environment from the first to the third grade, Nature, Society in the fourth and Natural Sciences and Society in the fifth grade.

[4] See С. Адамческа. (1996): 59-60.

[5] See N. Havelka. (2000): 67-68.

development, thinking**,** and intellectual development[6] are: *observation, description, comparison, grouping, understanding, analysis, synthesis, application, evaluation* etc.[7]

Pupils' activities must be planned in advance and correspond with the type of the class to be being given. Teachers decide upon pupils' activities for the introductory, main, and closing part of the class when preparing the operational plan based on the determined tasks. In line with this, according to the stages of the class, class activities are classified into: *activities in the introductory* part of the class, *activities in the main* part, and *activities in the closing* one (*reflection activities* and *evaluation activities*, such as analytical diary activities, five-minute writing activities etc.).

Based upon the application of the activities in various class strategies, such as the strategies of teaching, learning, experiencing and expression, exercising, creation etc., we can classify the activities as activities of *teaching through* conversation, dialogue, *programmed teaching* etc.; *learning through* research, problem solving, discovering, projects and games etc.; *receptive* and *productive activities*; *learning the* learning, practical skills, the native language or a foreign one etc.; *procedures that encourage different forms of creation.*

The most signifcant features of the pupils' activities to be pointed out are as follows:

The feature of being specific. Specific activities of pupils means a set of activities that are determined upon on the basis of the type of the class (depending on whether new knowledge, skills, habits, and other competences are being learnt or the ones already learned are being revised and practised), as well as on the basis of the nature of the tasks and objectives that are to be realized. In this sense, if the teaching situation indicates that problem elements are predominant, then the specific activities will be of the research types of activities in the implementation of the class sequences.

Activities structure. Structure of activities means that each activity has its *beginning*, *progress* and *end*.

Differentiation of activities. *Differentiating* the activities means determining structured activities according to individual pupils' characteristics, as well as learning and development of pupils in accordance with their individual abilities, affinities and interests. Each pupil of different abilities and different intellectual development progresses at his/her own pace, and the teaching objectives are determined according to the average pupils. Any uniformity in the teaching approach based upon average pupils practically leads to their success only whereas the cognitive, emotional and other needs of the pupils with under-average achievements in the class, as well as those of the ones with above-average achievements in the class, will be neglected. The differentiation of activities is to produce high-quality learning and success for all of the pupils[8].

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[6] We are led by some authors' opinions that intelligence is hereditary, but when it comes to intelligent pupils, whose intellectual development is not stimulated and developed, there is a great possibility that their intellectual development will stagnate and their innate dispositions will remain undeveloped.

[7] In the professional literature on development and improvement of the cognitive competences, as well as the psychomotor and affective competences, there are numerous activities, see Адамческа. (1996): 59-69.

[8] In practice, where the number of pupils in the classroom is larger than 20, the conditions to differentiate the activities according to individual pupils' characteristics are much more difficult. Grading is even more difficult, due to the fact that formation grading of the process of learning is still in its initial phase, and the effective feedback from each pupil, on each activity, under conditions of unclear grading criteria is difficult V. Janusheva, M. Pejchinovska. (2011): Sliven, Volume 19: 71-76.

3. PUPILS' ACTIVITIES – INDICATORS OF THE EFFECTS OF THE LEARNING PROCESS

The essence of the problem examined in this paper is at the base of the educational process, i.e. the class, in which the process of personality development and education is implemented, and pupils' personality is being changed progressively and with awareness. On the basis of the given curricula and teaching plans, the teacher has to select the most appropriate methods and forms of work in accordance with the time available for optimal teaching and development of pupils. Thus, important questions arise: *How to do this? On what basis will they determine the optimal didactic and methodological solutions? How will they monitor the pupils' achievements and improve the process of learning at the same time enabling an optimal realization of the objectives?* In order to get to the answers, we refer to *N. Havelka* who points out the forms and methods of teaching work which introduce pupils with the realization of activities in all class stages, and the realized activities are those that by themselves are significant developmental and educational achievements. Therefore, *optimal didactic and methodological solution in the realization of the teaching objectives is what ensures that the structure of pupils' activities corresponds with the program aims*[9]. Or, *what we want to be the result of the learning must be given in a certain form from the very beginning of teaching,* for instance, if the aim is to develop creative and critical thinking with pupils, they must be faced with concrete situations through activities that will require from them to reach creative solutions and discussion, or with situations that will require from pupils to be critical[10]. We can call the stated activities *specific*, because their purpose is to influence the development precisely of the stated specific areas of pupils' personality.

In that regard, for improvement of the process of learning in the fields of the natural and social sciences, as well as in all fields in general, it is necessary to design certain methodological models guidelines for identifying teaching situations of determined type and quantity of activities that the pupil has to perform in cooperation with the teacher and the other pupils. Thus, the degree of performed real[11], structured pupils' activities is the criteria to evaluate the efficiency and quality of the process of learning in the teaching process and the indicator of the success/failure in class.

4. METHODOLOGY OF RESEARCH

According to its nature, the conducted research, which is a segment of a Master's research, is active and realized with the aim to improve pupils' learning process[12] in Introduction to the Environment, Nature

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[9] See Havelka. (2000): 67.

[10] Creativity and critical thinking are competences that cannot be developed in just one class or during several classes and they are processes and skills relating to progressive development in the affective sphere of individuals. In addition, activities relating to the development of creativity and critical thinking are hard to measure, since the skills themselves are characterized with inexactness. We will not go into a more detailed explanation of the specifics of the process skills and their measurability in this part.

[11] Clearly manifested pupils' activities in the teaching.

[12] In the wider sense of pedagogy and psychology, learning is a developmental activity which aims at realisation of envisaged personality changes or changes of individuals' behaviour. See Havelka. (2000): 67. Learning is an individual process which depends on the developmental characteristics of the individual on his nature, character, interest, attention, motivation, and many other objective and subjective factors. Bearing in mind that cognitive categories such as memory, understanding, motivation, interest, attention etc., are psychological categories, we shall not go into their further interpretation and analysis for the aims of our paper. The paper focuses only on the

and Society, by introducing models with planned and organized activities for the pupils and the teacher. The time framework of the research covers the period from October 2008 to March 2009. Within this period a survey was conducted encompassing the pupils and teachers, pre-knowledge diagnostic testing of pupils, 12 model classes with systematic observation twice a week, and a final testing of pupils' acquisition of the lessons taught. The examinee sample numbered 315 third-grade and fourth-grade pupils and 35 teachers from 9 primary schools in the urban and rural area of the t. Bitola, Republic of Macedonia. The examinees sub-sample for the realization of the 12 model classes numbered 160 pupils and 12 teachers from 5 primary schools in the urban and rural area of the t. Bitola, Republic of Macedonia. Experimental factors (x) were introduced in the experimental group (E group) and the common teaching procedures were applied in the control group (C group). The E group was subjected to measurements of the dependent variables before, at the time of, and after the experimental factor effects.

The research procedures and instruments used for collecting data on the examined issue are: a survey and a questionnaire for examining the pupils and teachers' stands and opinions about the examined issue; a systematic observation and an observation protocol applied to obtain data on the efficiency of pupils' activities in class; and testing and tests for determining the level of the achievements in the initial phase and in the final phase, after the introduction of the experimental factor. Statistical procedures for data collecting were: measures of central tendency – arithmetic mean; measures of variability – standard deviation and coefficient of variability; t-test and x^2 – test.

5. ANALYSIS OF THE RESEARCH DATA AND DISCUSSION

Based on the results of the action research and the conducted analysis of the problem related to pupils' activities, it was determined that the pupils in the E group had better results in the tests in the categories of understanding and application of concepts from the content they were being taught with the help of the introduced methodological models. The curricula contents in the E group were implemented with clearly determined pupils' activities arising from the objectives and contents of the teaching. In this sense, by proving the hypotheses of the hypothetical frame, a general conclusion has been reached that the determination and application of high-quality, structured, specific pupils' activities improve the quality of the acquired knowledge, thus improving the general achievement of pupils in the teaching process. The following distinct conclusions has arisen from the confirmed and accepted distinct hypotheses:

1. *Quality*[13] *systematic and structured pupils' activities in the observation of a well-selected subject for this purpose lead to successful discernment of the significant elements of the observed objects, phenomena, and processes, thus resulting in better achievements in the categories of knowledge, understanding, and application of the concepts from the realized contents;* 2. *If quality, structured activities are applied in the teaching, in the research procedures that lead to discernment, comparison, analysis, synthesis and conclusion, the formation of notions and concepts is more effective;* 3. *The higher the quality of the structured pupils' activities organized and conducted in the field (direct natural surroundings and social environment) when teaching natural and social sciences subjects, the higher the quality of the acquired knowledge;* 4. *When quality structured and systematic activities are*

real, visible, manifest changes in the learning when pupils are being taught by means of certain quality structured activities.

[13] Carefully selected so that they correspond to the goals and contents of the class and well-organized activities.

undertaken in the observation of visual resources (images, sketches, schemes, and illustrated maps), the notions are clear and serve as a basis for future generalizations.

The grounds of the above-mentioned conclusions were confirmed with the final evaluation in which the pupils from the E group showed greater achievements in the results of the final tests in the topics *Traffic Education* and *Features of the Environment and Orientation in it*[14].

The quantity indices in the statistic processing reflect the above said. Furthermore, the acquired quantity results of the t-test have shown that the difference is neither accidental nor statistically insignificant. The difference between the two arithmetical means i.e. those of E and C group final results is - ***t = 5,16*** и ***t = 2,85***, with the degree of freedom of - 9 in the first, and degree of freedom of 6 in the second case, (with the significance level of 0,05) and thus ***statistically significant.***

Hence, the arithmetical means of the results obtained from E group is **32,70**, and the middle value of the results of C group is **29,83**. The difference between the two arithmetical means i.e. those of E and C group is **2,87** in favour of E group.

Table 1. Results from the final examination of the pupils' achievements on the topic *Traffic Education*

	E group	**C group**
N	80	80
$\overline{X}$	32,70	29,83
SD	3,85	4,16
CSD	11,77%	13,95%
	t = 5,16	

Table 2. Results from the final examination of the pupils' achievements on the topic *Features of the Environment and Orientation in it*

	E group	**C group**
N	80	80
$\overline{X}$	35,04	32,41
SD	4,83	6,62
CSD	13,80%	20,43%
	t = 2,85	

[14] See М. Пејчиновска. (2010): 62-68, Master's thesis.

Analysis of the data has shown that the achievements quantity difference that this testing has shown goes in favor of E group, which is obvious in the results from the final testing of the knowledge, understanding and application of concepts from the content *Traffic Education* presented in Table 3.

Table 3. Pupils' achievements at the final testing on the topic *Traffic Education*

Number of tasks	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	$\overline{X}$
Experimental group	2,07	5,88	2,70	2,63	2,22	2,89	3,48	1,34	6,75	2,74	**32,70**
Control group	2,08	5,61	2,51	2,37	2,10	2,81	2,80	1,06	6,59	1,90	**29,83**
Experimental group %	68,89	97,94	90,16	87,62	73,97	96,19	86,90	67,14	96,46	68,57	**86,04**
Control group %	69,21	93,49	83,81	79,05	69,84	93,65	70,00	52,86	94,15	47,62	**78,50**
Difference %	-0,32	4,44	6,35	8,57	4,13	2,54	16,90	14,29	2,31	20,95	**7,54**

In the statistic procession of data the quantitive indices have also shown a difference regarding the achievements in the final testing with E and C group on the topic *Features of the Environment and Orientation in it*. The average achievements with E group is **35,04%** i.e. **2,63%** higher than the average achievements with C group which is **32,41%.** The analysis of the data has shown the E group has had better achievements than the C group in almost every of the tasks given in the final testing, presented in Table 4.

Table 4. Pupils' achievements at the final testing on the topic *Features of the Environment and Orientation in it*

Number of tasks	**1**	**2**	**3**	**4**	**5**	**6**	**7**	$\overline{X}$
Experimental group	7,93	3,66	3,73	5,13	3,43	5,26	5,59	**35,04**
Control group	7,94	3,43	3,58	3,83	3,40	5,13	5,13	**32,41**
Experimental group %	99,06	91,56	93,13	85,42	85,63	87,71	93,13	**92,20**
Control group %	99,22	85,63	89,38	63,75	85,00	85,42	85,42	**85,30**
Difference %	-0,16	5,94	3,75	21,67	0,62	2,29	7,71	**6,91**

The pupils in E group have also shown higher quality of the achievements acquired in reference with the categories ***comprehension and skills***, confirmed with the statistic procession of the data in the x^2 - test. This is indicator of the effect of the introductory methodological models over the process of learning as well as the confirmation of the influence of the same over the better quality of the acquired notions in reference with both topics.

In the final examination we examined the achievements of the pupils from E and C group on the topis *Traffic Education* and *Features of the Environment and Orientation in it* regarding the categories comprehension and application of the concepts. The analysis of the obtained results from the tasks has confirmed both the quality of the acquired achievements and the effect of the introductory methodological models over the process of learning (tables 5 and 6).

Table 5. x^2 – test on the categories of comprehension and application from the topic *Traffic Education*

Number of tasks	C - points	E - points	All points
1	218	217	435
5	220	233	453
8	111	141	252
10	200	288	488
Total	749	879	1.628

SS = (r-1)(k-1) = (4-1)(2-1) = 3, **x^2= 9,495 > 7,815**

Table 6. x^2 - test on the categories of comprehension and application from the topic *Features of the Environment and Orientation in it*

Number of tasks	C - points	E - points	All points
4	272	274	546
5	286	298	584
6	306	410	716
7	410	447	857
Total	1.274	1.429	2.703

SS = (r-1)(k-1) = (4-1)(2-1) = 3, **x^2= 8,096 > 7,815**

On the other side, the analysis of the research results has shown that the achievements in both groups regarding the category of knowledge do not depend on the introductory methodological models, which can be seen in tables 7 and 8.

Table 7. x^2 - test on the category knowledge from the topic *Traffic Education*

Number of task	C - points	E - points	All points
2	589	617	1206
3	264	284	548

4	249	276	525
6	295	303	598
7	294	365	659
9	692	709	1401
Total	2.383	2.554	4.937

SS = (r-1)(k-1) = (6-1)(2-1) = 5, **x^2= 4,814 < 11,070**

Table 8. x^2 – test on the category knowledge from the topic *Features of the Environment and Orientation in it*

Number of tasks	C - points	E - points	All points
1	635	634	1269
2	274	293	567
3	286	298	584
In all	1.195	1.225	2.420

SS = (r-1)(k-1) = (3-1)(2-1) = 2, **x^2= 0,512 < 5,991**

In addition, the analysis of the data from the observation protocols helped to confirm the conclusion on the efficiency of *observation, research in the natural environment, modelling, and creation of illustrated maps*[15]. These higher results in the finals are due to the precisely determined quality, structured activities in the introductory, main, and closing part of the class, the great interdependence of research in the field[16] and the pleasure, interest, and motivation of pupils in the immediate contact with objects, phenomena and processes, as well as to the application of visual and other teaching resources to serve for successful realization of pupils' activities. Furthermore, the data from the observation protocols has shown that pupils' achievement depends on pupils' interest, activity and motivation[17].

6. CONCLUSIONS

The real pupils' activities in the closing part of each of the classes, or in the closing part in each separate one of the series of classes, enable the determination of the quality of the educational curricula and the realisation of the set class objectives, at the same time indicating the teaching success/failure. Pupils'

[15] See Пејчиновска. (2010): 148-161.

[16] 64% of the total number of examined pupils (315 pupils from nine primary schools from the urban and rural area of Bitola) responded that research classes outdoors, in the immediate environment, were interesting, see Пејчиновска. (2010): 150.

[17] Пејчиновска. (2011). *Мотивационата функција на повратната информација во наставата по ЗО, природа, општество и подобрувањето на успехот на учениците. Оценување за учење во 21-от век*, Охрид.

activities such as observation, recognition, identification, comparison, note-making, drawing etc., in organizational research, observation (as a research procedure) and modelling improve pupils' achievements. In the course of the research, the quality, structured and systematic activities in the framework of 12 methodological models and the didactic-methodological solutions which served for the purpose of a successful realization of pupils' activities, resulted in improvement of the achievements in the test problems which required knowledge, understanding, and application of concepts of the lessons already taught. It has confirmed the connection between pupils' activities and the learning process effect, which is only one aspect of the subject of this research or only the starting point for a further profound research of this complex problem from all of the aspects. In that sense, we have the next objective imposing itself before us: conduct of comprehensive, quality analysis of curricula of the first and second cycle of primary nine-year education from the aspect of the given objectives and operationalization of the objectives, and the selection of pupils' activities on that basis; analysis of pupils' activities that are performed in our educational practice and finding out whether they are in correlation with the set objectives and with the contents given in the subject curricula (planning modes, types, organization and realisation of activities); qualitative data on the type of pupils' activities performed when teaching subjects of the natural and social sciences; finding out whether appropriate types of activities are being performed to spur the development of certain competences with pupils (cognitive, psychomotor, and affective) etc.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

THE QUALIMETRIC APPROACH TO PROJECTING INTERNAL SYSTEM OF QUALITY ASSURANCE

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Abstract

The has been shown the opportunity of a use of the EFQM model for projecting the internal system of quality assurance as satisfying the qualimetric approach.

Key words: *the qualimetric approach, internal system of quality assurance, the projecting*

1. INTRODUCTION

A use of qualimetric approach to the forming of criteria and parameters of estimation of the state of systems will give some opportunities to get reliable information of the state of a system in whole, the results of it's functioning and etc. Qualimetry as a science of measuring and estimating qualities of any objects and processes has got own subject of category "measurement", "estimation", "scaling" and consists of general, special and subject of qualimetry (E.V.Yakovlev, 2000).

The qualimetry **by our understanding** (Y.A.Nabi, 2007) is can be restricted by consideration of the category "measurement", since "estimation" and "scaling" relate to other functions of system. The estimations are an indissoluble element of any system of quality assurance, since in order to manage any process, it needs to able before all to measure it's parameters. Without quantitative estimations of a quality one cannot manage at studying informational aspects of the problem of the quality of products. And, in the end, the very nature of problems of measurement of quality of products pre- determinates the need of use of quantitative methods of the describing a quality.

1. PURPOSE OF ASSESSMENT

Quality Management is the key issue of all higher education systems in the world who are providing mass education. Without forecasting, i.e. without prognosis and evaluation of the expected and desired outcomes of educational activities, any research of strategic character is meaningless. The quality of execution of any strategy depends on the extend of concretization of the expected results. As the authors note (N. Selezneva , A.I.Subetto, 1996), the results can be measured *directly*, on the actual pedagogical level in the form of qualitatively and quantitatively assessed knowledge, skills and creative, philosophical, mental, behavioral features and competencies, which are mastered by people in the process of gaining education. However, they underline that the result of education can and should be evaluated also *indirectly*, on the level of economic, moral, intellectual, scientific, technological, cultural, ecological, democratic, law, mental state and capacity of the society, state and civilization in general. Thus, the quality and result of education are evaluated both at the individual-personal level and also social- government level.

The dissatisfaction is the source of development. This provision needs to be analyzed all the time, sometimes in a radical way despite the current practice. Moreover, the ability to make objective self evaluation is the essential condition of survival of any educational institution. The competition between educational institutions increases and the most mobile and dynamic ones which are able to respond rapidly to the changing situation, will be able to create favorable conditions. This is the importance of methodology of using reflection as one of conditions of intellectual development. Therefore, the quality of education should be regarded as one of the functions of quality management and distinguish between the *possible system of quality assessment* (quality management) and *system that provides certification* of individual students (N. Selezneva , A.I.Subetto, 1996).

3. TYPES OF ASSESSMENT

The concept of "quality assurance" means a special form of assessment, indicating to the processes and schemes, which are aimed at monitoring, provision, support and improvement of the quality of education.

Higher educational institutions around the world are working together to establish quality assurance systems of education that meet the requirements of modern society. Ensuring the quality of higher education requires the development of methods of quality assessing of education and training of specialists at the Universities.

Ensuring comparable quality of education through introduction of mutually recognized quality assessment systems is one of the conditions of uniting of the European countries in regard of establishing a unified European educational space. Quality assessment systems existing in the world can be divided into two models (Y. Pokholkov, 2004).

The first model - "French" is based on external evaluation of the University in terms of its responsibility towards the society and the State, through certification, accreditation, inspection. This model is used in Norway, Czech Republic, Latvia, Estonia and other countries where government agencies set aims of assessment, determine the most important aspects of assessment, take decisions in organizing the training process.

The second model of assessment of the system of higher education is "British", which is based on internal self-evaluation of the University academic community. It operates in the UK, Germany, USA, Latin America.

Within the mentioned context the special attention should be paid to four aspects of educational activities which have most effective impact on the quality of higher education:

First, the quality of staff which is guaranteed by *high academic qualifications* of teachers and researchers of the Universities and the quality of educational programs that is provided by combination of teaching and research activities, their conformity to public demand.

Secondly, *the quality of students knowledge* when the possibility of competency approach to the identification of the requirements to the graduates of the Universities and transition to the three-level model of training of specialists based on credit technology has become a reality. It can be achieved only through diversification of educational programs, overcoming of multi-faceted gap between secondary, post-secondary vocational and higher education, increasing the role of mechanisms of training and professional orientation and motivation of young people.

Thirdly, *the quality of infrastructure* and *"learning environment"* at the Universities which is covering the totality of the conditions of their functioning, development, including computer networks and modern libraries that can be achieved due to the adequate funding.

In fourth, *the quality of the activities of the objects of educational process* which is providing the quality assessment as a mechanism of dialogue and self-development.

In the process of designing the system of quality assessment we should take into account all three areas of quality structuring:

- functional, which is associated with the breakdown of the quality into the properties;

- substrate, which is reflecting a breakdown of quality according to the principle of its carriers (carriers of quality: teacher, students, administration, program, text book, level of education, etc.);

operational for the breakdown of quality of processes (totality of operations processes, subprocesses, actions).

The author of the model of human quality (A.I. Subetto. 2000) believe that the quality of higher education consists of the following:

- quality of training of the graduates of University, who belong to the category "quality of the result of higher education";

- quality of State educational standards, quality of the used normative base (regulations and rules), quality of educational programs that determine the quality of goal-setting in the system of State policy in the field of quality of higher education;

- quality of teaching and methodological work and quality of laboratory, logistic and technical base of higher education;

- quality of educational technologies (educational technologies);

- quality of academic-teaching and research staff (human resources);

- quality of education content;

- quality of education;

- quality of management (leadership)

the quality of training of University graduates (the quality of training of specialists) acts as a resulting indicator in "quality systems" of the Universities.

Y.Nabi and co-authors propose the following grouping of components of quality education is proposed:

- quality of the resource potential

- quality of specialist

- quality of ATS

- quality of training- professional activities (Y.A. Nabi., Mendigalieva G.K., Tusubekova K.K., 2004)

4. THE APPROACHES TO QUALITY ASSESSMENT

First, quality assessment as a check. In this case, the quality assessment is needed for the evaluation of the activities of the institution. The assessment turns into inspection and is based on the aim to find weaknesses. Often such procedures are based on the deliberately high criteria. Model of attestation is explicitly or implicitly based on these criteria.

Secondly, quality assessment as a mechanism of dialogue and self-development. This is an alternative approach in which the major consumers of information on educational outcomes are the direct participants of the educational process. In this case, the responsibility arises not because of control, but as a consequence of openness and transparency, and procedures of evaluation become a tool of the objects of educational process. In this approach the methodological work on providing educational institutions and stakeholders of the process with new ways of assessing the education achievements and new means of dialogue with the community becomes the core system of quality assessment. The obvious advantage of the second approach is that the process of collecting data on quality of education is at the same time the process of development of teachers, students and educational institution itself. In these circumstances, the approach to the quality assessment is based on the assumption that the academic-teaching staff evaluates the development of their

- professional and personal qualities and organization and also the result of the training process;
- students evaluate learning of key competencies and development of their personal qualities,
- the University evaluates the academic environment and reputation of the University.

As we see, these approaches are based on two kinds of educational philosophy. In first case, higher education is understood as the sphere of investment of public funds for implementation of government priorities. In second case, higher education is considered, as the service sector, on the one hand and on the other - as the sphere of free creative action of teachers and student groups. In first case, a tool of maintenance of the system is account and control, direct supervision. In second case, such tools are open channels of communication and professional development.

We believe that to incorporate the requirements of Bologna declaration in the education system of the country the education quality assessment principles must be as follows**:**

- thorough account for the demands of education, society and state;
- conformity of the indices system and European standards;
- manufacturability of used indices;
- validity of used indices (possibility of multiple usage);
- hierarchy of indices system.

In the process of development of science and practice many of the terms which define the idea of quality assessment are changing, developing and being supplemented and corrected in the light of new requirements and conditions. Therefore the improvement of quality of education is understood in two ways: as improvement of quality of training specialists with account of individual capacities of the students, its correspondence to the real needs of the society, and as improvement of the efficiency of training system, i.e. correspondence of the structure of training to the needs of society in qualified specialists. Therefore, there are fixed and assumed needs in educational activities. A variant of the fixed needs is compulsory State educational standards which establish the minimum level and volume of content of higher education. Assumed requirements reflect the opinions, requirements and expectations,

social order of different professional groups, need of the students in realization of personal intellectual and creative potentials. This makes it necessary to draw public attention to the assessment of quality of education at individual and institutional level.

Education quality assurance systems within the institute of higher education are necessary internal attributes of activity of contemporary institution of higher education that wishes to obtain an international recognition of its academic programmes or international accreditation.

In present time the European standards and principles related to the quality assurance in higher education institutions (separately for internal and external systems) are outlined. The standard model consists of 7 main elements and recommendation regarding their accomplishment:

- University strategy elaboration and realization related to continuous improvement of the quality. The strategy, programmed and procedures have to have formal status and must be publicly accessible.

- The presence of formal mechanisms of approval, monitoring and regular assessment of programmes.

- Student knowledge assessment in accordance with the criteria, conditions and procedures issued that are being consistently applied.

- Presence of system of quality assurance of the professorial and teaching body. case.

- Presence of information and student support resources that are adequate for the purposes of learning process.

- Presence of information systems that ensure efficient management of learning and other activities of the university.

Regular update and publication objective and authentic information regarding the university programmes.

Quality assurance systems should consider:

1) determination of the *level of responsibility and duties* of all interested institutions and higher education institutions;

2) *assessment of programmes or educational institutions, including internal assessment, external expertise, student participation in assessment procedures and publication of its results*;

3) *presence of comparable systems* of accreditation, certification or other similar mechanisms;

4) *international partnership*, collaboration and participation in international networks.

What is the purpose of quality assessment? Many experts believe that quality assessment is needed for the managerial bodies to receive timely and reliable information on how the system works, what steps should be taken to improve the situation in case of deviations. However, here is a substitution of purposes, because the task of ensuring the flow of information upward is a minor task and has meaning only in the context of the overall objective of quality improvement. The aim of establishing the quality assessment system is to provide conditions for improving the quality through the increased flows of information on educational outcomes and relative factors.

Feature of the considered approaches is that they don't give a quantitative assessment. As it was noted above, of problems of measurement of quality of products pre- determinates the need of use of quantitative methods of the describing a quality.

Qualimetric approach, implemented at projection of system of an assessment of quality of the higher education, is based on the fact that each component is evaluated in points and their total amount may be equal to a maximum of 1000. Norms of maximal points have been identified by using expert method. The evaluators put the gained points into the evaluation list and identify the assessment on each indicator and overall assessment. The obtained data are compared with the standard and the coefficient of quality is determined (Y.A.Nabi , G.K .Mendigalieva, J.A. Karaev, S.O.Komekova, 2005).

The reliable quantitative assessment can be received on the basis of the EFQM model. The EFQM is being used for self-assessment and improvement of management systems. The role of EFQM model is to identify areas for improvement, implementation of which increases the competitiveness of the enterprise, therefore the result of implementing this model - is the evaluation of the level of maturity as the degree of approximation to the perfect (ideal) company within the adopted model with a list of areas for improvement, in which the changes can be implemented. With the help of criteria of the group "Abilities" it is possible to understand how the results are being achieved. In the "Results" group criteria the main indicators and results of companies activity are united, i.e. what has company achieved with given abilities.

Each criterion possesses a points marking scheme. The total sum of all point from all criteria comprises 1000 points. The weight of each criterion is established be EFQM experts and other numerous users of the model. The weight can be changed with respect to experience gaining and changes in external environment. The "Abilities"and "Results" groups have equivalent maximum number of points of 500 each. This is an indication of equal importance potential of the organization as well as how good this potential is being realized.

5. CONCLUSIONS

The qualimetric approach to projection of internal system of a quality assurance assumes use of quantitative methods of an assessment of quality. In modern conditions realization of this approach is possible on the basis of the EFQM model.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

FOREIGN LANGUAGE AS A TOOL OF PROFESSIONAL CONPETENCES DEVELOPMENT

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Abstract

As a result of studying in Higher Education Institution a student must possess professional competences that are focused on in National Educational Standards as well as in the documents of European Council. These competences are usually taught at special subjects. We are sure that this aim can be achieved by means of a foreign language. In this connection the role of foreign language learning and teaching is great. Some aspects of foreign language learning and teaching for the purpose of professional competence development are presented.

Key words: *professional communication, communicative competences, teaching of professional foreign language, ICT application, problem solving, project making, communicative activity, content and language integrated learning.*

1. INTRODUCTION

Professional communication as a process of maintenance and development of interpersonal relations is manifested as a result of the following communicative needs of a specialist:

- realization of a joint professional activity;
- exchange of information, data and research opinions;
- development of mutual understanding and joint strategy of interaction in the professional field.

All factors mentioned above are very important both for a person and for a group of individuals united on the basis of their profession. The process of professional communication is realized due to the communicative function of the language in different situations of professional communication. Contemporary development of economic, political and cultural communication between nations and people speaking different languages and living in various national and cultural environments enhances the significance of practical application of foreign languages in spoken and written discourses.

2. FOREIGN LANGUAGE IN VOCATIONAL TRAINING

To master a foreign language is a compulsory component of vocational training in a higher educational institution. The objective of foreign language teaching in a nonlinguistic higher educational institution is closely connected with the learners' acquisition of knowledge, abilities and skills as well as communicative competences that will make the communication of specialists-to-be sufficient enough.

Recently it was noted that graduates no matter where they studied were unable to problem-solve, communicate through writing and speaking, be engaged in ethical decision-making, work in teams, and interact effectively with others. All these drawbacks caused many of the curricular innovations and

reforms which reflected three shifts in emphasis: (1) from learning goals that focus on mastery of content and content coverage, knowledge of disciplinary facts and concepts (what students know) to demonstration of broad competencies (what students can do with what they know);

(2) from learning separate disciplines to integrative learning experiences across the curriculum;

and (3) from changes in subject matter as the primary means to improve learning to innovations in instructional methods and assessments as integral to curricular reforms, application of constructivist approach [Higher Education Curriculum…].

Researchers emphasize that the objective of foreign language teaching in nonlinguistic universities is to develop such communicative skills that will (1) assist specialists-to-be to realize professional interaction and communication in a foreign language in various situations, (2) reflect their interests in the domain of study and future profession, (3) promote their willingness to act as a person that has a well-developed linguistic competence not only in the native language but in a foreign language as well. The linguistic competence should be realized in speech situations of different types, genres and functional styles of vocational activity in a foreign language [Linguistic Performance and Linguistic Competence].

To achieve the above mentioned objective in a more efficient way, definite conditions should be carried out. They are (1) didactic, (2) organizational and (3) psychological.

Didactic terms and conditions of communicative competences development include the application of contemporary methods, technologies of teaching, as well as projects, debates and problem solving that help to imitate social and professional interaction of the specialists-to-be under the circumstances close to their professional activity.

On the organizational level teaching is focused on the learner's personality, his cultural and ethnic background, trajectories of self-development.

From psychological view the process of learning should be realized in friendly atmosphere.

3. CONTEMPORARY TECHNOLOGIES OF TEACHING

The expanding list of proficiencies commonly identified by universities include: critical thinking and problem-solving; multiple modes of inquiry in the social sciences, humanities, and arts; communication skills, including writing, speaking, and listening; technology and information literacy; sensitivity to diversity, including multicultural and intercultural competencies for participation in a pluralistic democracy; civic, global, and environmental responsibility and engagement; interpersonal skills, including teamwork and collaboration; self-awareness; moral and ethical reasoning, and integration of knowledge from diverse sources.

To achieve contemporary goals of teaching and training new pedagogical technologies are applied. Under the term pedagogical technology we imply the combination of goals of teaching, means and assessment of their realization. It also includes the content, forms, principles, approaches and methods of teaching. While designing a pedagogical technology the focus is made on the process of teaching and learning, its level, the integrity of all components of teaching and learning process, different aspects of its guidance. Pedagogical technology is also closely connected with training and personal development of a learner. The subject of a pedagogical technology is an interaction between a learner and an instructor in different kinds of activities designed on the basis of structural, systemic and standard ways of teaching and training in a definite educational environment [Darking].

The set of different pedagogical technologies applied can be varied depending on the level of learning, the goals of teaching and the particular features of the learners.

The contemporary pedagogy pays much attention to such technologies as problem solving or as it is sometimes called in teaching language "Task-Based learning", project making, case study, communicative training, ICT.

Problem-solving is the ability to identify and solve problems by applying appropriate skills systematically. Problem-solving is a process—an ongoing activity in which we take what we know to discover what we don't know. Problem-solving involves three basic functions: seeking information, generating new knowledge, making decisions.

Problem solving supposes that students can take on some of the responsibility for their own learning and can take personal action to solve problems, resolve conflicts, discuss alternatives, and focus on thinking. It provides students with opportunities to use their newly acquired knowledge in meaningful, real-life activities and assists them in working at higher levels of thinking [Cherry].

Projects Method is considered to appear in 1918 when W. H. Kilpatrick published a paper on 'The Project Method'. He mainly focuses on the purposeful activity and problem solving capacity of the students based on their needs, interest, attitudes and abilities. He was influenced by the John Dewey's Pragmatism principle [Kilpatrick 1918].

Nowadays some types of projects are distinguished:

Constructive: Practical or physical tasks such as writing an article, making a model.

Aesthetic: playing drama, making musical programs.

Problematic: developing a problem for solving closely connected with the learners' experiences. It is based on the cognitive domain.

Individual (when every student solves a problem in their own) and Social (Group) projects.

Simple (when students are completing only one work at a time in one subject or one area only) and Complex (when students carry out more than one work at a time). They are focused on the work in various subjects. Here the students get the knowledge about the work in different activities and dimensions [Project Based Education].

Project method has become popular in the field of education and so it is examined and studied from different points of view e.g. principles of project making technology, its advantages and drawbacks. Project method has the following steps: creating situation, selection of the problem, planning, execution, evaluation, reporting and recording. A project can be presented in the form of a power point presentation, an article, a wall newspaper, a video film, a video clip etc. [http://anandkab.blogspot.ru/2011/03/project-method-n1.html?utm_source=BP_recent; http://www.llas.ac.uk/projects].

The case method is a teaching approach that consists of presenting a case by the students, putting them in the role of a decision maker facing a problem [Heath 2006].

All educational technologies and methods mentioned above are widely used in the development of professional and communicative competences of learners at non-linguistic universities.

Communicative training method is also closely connected with teaching a foreign language. The Communicative approach emphasizes the ability to communicate the message, instead of concentrating exclusively on grammatical perfection or phonetics [http://www.tjtaylor.net/english/teaching-method-communicative-clt].

This method is considered as a means of impact on a learner to shape and develop his skills, competences and abilities. Training is a kind of interactive teaching and learning, it reflects the situations of real life. This method implies equal interpersonal relationship, constant feedback, self-assessment and self-realization of the problems, the active participation of learners in the work.

The theory of communicative training is widely used with the theory of social communication, in the development of professional, social and personal competences [Erton 2007].

Speaking about contemporary technologies we cannot avoid mentioning the application of ICT (Information Communication Technologies). Updated information technologies such as mass media, net, cellar and satellite means of communication are connected with new forms of teaching and learning. Computer games, different sites, social networks can be applied for pedagogical purposes. The issues of ICT application in teaching language for specific purposes (LSP) were analyzed in our previous publication [Belenkova 2012b].

4. INTEGRATION OF VOCATIONAL AND LANGUAGE LEARNING

Teaching language for specific purposes (LSP) implies the development of foreign language communicative competences connected with a future profession of a learner, is closely connected with simulation of professional environment providing tasks which a specialist-to-be can face and should solve while his professional activity after graduating the university.

Professional activity of our learners lies in the domain of law and is quite various. It can include writing letters and other papers, participating in official bodies both in the native language and in a foreign one. While realizing foreign language communication a lawyer should not only deal with law but clarify, give reasons, prove his points of view and persuade his clients and opponents.

Students fulfill all these activities in foreign language sessions in the course of professional communication and translation. As any professional speech activity has a definite purpose it implies a conscious selection of means and ways to achieve the objective of learning both in in the native language and in a language studied. So learners apply professional knowledge that they get while studying other subjects connected with their profession and consequently content and language integrated learning (CLIL) approach is fulfilled.

Traditionally this approach implies that a subject from the core curriculum is taught by means of a foreign language. In People's Friendship University of Russia (PFUR) learners at a bachelor's level of education apply foreign language to get new information connected with their profession from different sources either paper or internet. They participate in international conferences in foreign languages, take part in international language and professional Olympiads and submit final research papers in foreign languages. Some of the learners have traineeship as interpreters from Russian into English and back.

At a master's level there are some English-taught Master's programs where English is a language of instruction. At Law faculty of PFUR learners can select of the following programs:

- International protection of human rights
- Legal translation and interpreting (MLTI)
- Translator and Interpreter for Public Services and Institutions
- Post-Graduate LL.M. International Private Law.

Two of these programs are realized in the department of foreign languages. Learners study such theoretical and practical courses as Theory of Legal Translation, Legal Documents Translation (1 st language), Legal English Practice Course, Translation Practice Course, Forensic Linguistics, Comparative Linguistics, Quantitate Linguistics and ICT, Intercultural Communication, Discourse and Argumentation, Editing and Proofreading, Pedagogy and Psychology of Higher Education, Translator's Ethics etc. The program includes lectures, face-to-face studies and learners' self-studies.

When learners develop their skills of professional speech activity they should take into account objectives and terms of communication, communicative appropriateness of the utterance that determine the selection of required vocabulary and grammar structures.

According to educational standards a graduate of a higher educational institution in the domain of law should have the following professional characteristics of a lawyer, namely: always act in accordance with law; know and respect legislation its regulations and statutes; manage his professional activity, supervise and evaluate its outcomes, be aware of the importance of regular professional self-development; be ready to get new information; respect moral values and opinions of other people;

be responsible and hardworking; decisive and reserved. These are the elements which the components of communicative competences consist of and which are completely essential for the graduates of higher educational institutions [Belenkova 2012b].

To develop characteristics mentioned above learners should be involved in the continuous process of vocational training on all subjects studied including sessions of foreign language. Higher level of competences development can be achieved applying all contemporary technologies of learning in unity, namely: task based learning, communicative training assignments, realization of different projects and case-study method in a foreign language.

The emphasis is made on transfer of theoretical knowledge acquired while studying subjects of the learners' future profession into the area of the practical solution of the task, and afterwards the transfer of the knowledge from one situation into another; afterward further transfer of data from the particular situation into a generalized pattern. Simultaneously learners develop their ability to think like a lawyer, apply professional concepts under the circumstances of practical environment.

Foreign language teaching in a non-linguistic higher educational institution cannot succeed without the application of contemporary ICT. Internet can be considered as an important source of information connected with the learners' future profession. The following sites might be of great interest for the lawyers-to-be: http://www.communitylegaladvice.org.uk/en/legalhelp/faq.jsp#Education; (http://legalproverbs.blogspot.com/; http//www.famous-quotations.com/asp/aquotes.asp?alpha=L&curpage=2); http://ask.reference.com/related/Famous+Lawyers+in+History?o=15096&l=dir; http://www.whitehouse.gov/about/presid; http://www.theinjurylawyers.co.uk/injury-lawyers-blog/2008/06/29/top-10-famous-lawyers/ents [E-learning].

Simulation of the situations close to the professional communication implies that the means and ways of problem solving are selected by learners according to their professional interests and motives, personal characteristics and abilities. So the interrelation of the information studied and the learners' personal experience appears. That implies that studying some particular topic from the core curriculum learners realize the course and stages of work.

As it is mentioned above communicative training assignments are focused on the situations of real life. So when we speak about the application of this technology in the practice of teaching English as

language for specific purposes the assignments are closely connected with the situations which lawyers-to-be can face in their professional career. These situations are acted out and simulated by the learners in a foreign language and the professional and foreign language communicative competences are developed simultaneously. Some examples of foreign language communicative training for lawyers-to-be are (1) “You are a lawyer. What can you advise to a newly married couple that has lost the luggage (or to “a traveler who is disappointed by the hotel service” etc)?”; (2) “Agree or disagree with one of the statements about law and lawyers (these statements are searched by the learners or by an instructor).For example: “Modesty forbids what the law does not”. (by Seneca); “Loving kindness is greater than laws”. (the Talmud); “Lawyers know life practically” (Samuel Johnson) (3) “Make a “snow ball story” on an accident “A bus with some passengers was on its way. When it passed a tunnel everybody saw …”. “A beautiful lady visited a Community Legal Advice Centre and asked for help…”. Other communicative training assignments for layers-to-be including episodes for role playing and acting out can be found in the tutorial “Talking Like a Lawyer” [Беленкова 2012].

Different projects in a foreign language studied can also be used as tasks for professional problem solving. As examples of such projects the following kinds of work can be used: making presentations on some professional topic in a foreign language, compiling tests on the topics studied, participation in conferences. Foreign Languages Department of Law Faculty in Peoples’ Friendship University of Russia holds two annual students’ conferences “WE SPEAK LEGAL ENGLISH, GERMAN, FRENCH, SPANISH, CHINESE” the latest was held on 23-d of November 2012 and " Language. Culture. Translation" which was held in May 2013. Usually the students of 2-4 academic years participate in the conferences, they are attended by students of Moscow higher educational institutions, students from other cities of Russia and Kazakhstan. At the end of the conferences all participants get proceedings of the conference.

Studying and acting out different cases (“case-studies’), creating remakes of novels and films on the topics connected with the future profession of the learners are also very useful for developing both professional and foreign language communicative competences. Cases can be taken from special sites e.g.http://www.cba.org/cba/practicelink/bwl/anxiety.aspx;
http://juniorlawyers.lawsociety.org.uk/node/124,
http://www.dol.govt.nz/er/bestpractice/worklife/casestudies/lawyers-dilemma.asp,
https://www.lexisnexis.com/law-firm-marketing/case-studies/ etc. or books [Stake 1995, Yin R.K. 2002]. The choice of cases for studying and consideration depends on the level of learners’ foreign language communicative competences and their professional knowledge of the subject but even at the beginning of professional education some situations from everyday life can be used as a case for studying [Buckley, Okrent 2009]:

“Assume the following actual cases were actually assigned to you for investigation. You perform the preliminary interview of each of the named plaintiffs. Be sure to consider each of the facts of the case, as well as all the potential defendants.

1. Ms. Smith was admitted to the hospital through the emergency room with severe pain to the abdomen. After the operation by Dr. Brown an infected appendix was discovered and removed. Ms. Smith was released four days later. She continued to have increasingly severe pain and was readmitted to the hospital three weeks later. The same surgeon performed another operative procedure and recovered a surgical sponge left in her during the initial operation and removed it.

2. Josh Tyler was walking up the hill on State Street when a car without driver comes rolling out of a private parking, down the street and pins him against the office building, breaking his left leg. An

ambulance was called by a store employee who sees the accident happen. Josh is taken to the nearest hospital. He later learns that the car recently had been serviced by Ben's Auto Repair".

All assignments connected with problem solving can later serve as the basis for screen adaptations filmed by learners. They make video films or video clips that can also be used while studying LSP for listening and understanding, for debates and interpretations of the project's results, for learning terms and notions. Novels and stories by Dreiser T. ("An American Tragedy"), Rose R. ("Twelve Angry Men"), Christie A. and other English speaking writers can be used for remakes and video projects created by learners. Sometimes they think out and invent the plot of the video themselves taking the information from mass media or internet resources.

All stages of making video films starting with the preliminary work on the level of drafting and preparation to filming and application of the video in practice of learning and teaching English as LSP were presented and described at the conference in Florence, Italy [Belenkova 2012a].

As the process of problem solving with the application of contemporary educational technologies occurs in a foreign language we can say that the development of both professional competences and foreign language communicative competences, as well as the integration of professional knowledge and foreign language communicative skills occur.

To succeed in objective of foreign language teaching in a nonlinguistic higher educational institution learners should have similar level of communicative competences development, psychological compatibility; they should also have common interest to the topic studied. An instructor is no longer a supervisor but an assistant and moderator.

When task based learning, project work, case study or communicative training assignments are realized a learner becomes not an object of teaching but an active participant of the vocational training process.

5. CONCLUSION

The application of various innovative technologies of foreign language teaching promotes the professional competencies and the foreign language communicative competences of the higher education institution graduates.

The application of traditional pedagogical and educational methods and techniques and contemporary technologies in teaching develop both a communicative approach to teaching and different components of communicative competences. Up-to-date technological devices can help to form a personal educational environment of a student and serve as a means of assessment and self-assessment of the level of competences developed.

Contemporary technologies assist to develop learners' creativity and enhance their motivation.

Professional competences of the lawyers-to-be and the foreign language communicative competences are simultaneously developed in the frames of content and language integrated learning (CLIL) approach.

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Journal of International Scientific Publication:
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ISSN 1313-2571, Published at: http://www.scientific-publications.net

GROUP WORK WITH STUDENTS THROUGH MENTOR - FUNDAMENTAL DEVELOPMENT OF SCIENTIFIC TEACHING STAFF

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Abstract

In this paper are actualized the function and the importance of mentoring as educational category, generally in the preparation of the teaching staff in particular. Types of mentoring have been performed in the initial professional cycle in the development of the teaching staff and the subjects occurring in the mentor function - the mentors.

Shaping of theory and practice of the group work in the organization of educational work, the sociological moment is a basic line.

Key words: *group work, mentor, education, mentoring, educational practice.*

INTRODUCTION

The term **group work** appears in the pedagogical-methodological terminology in the late 19th century. Immediately after 1900_s, the group work moves upward in the way of training of the future scientific teaching staff. American schools have tried to establish integration between education and life, through philosophy, psychology and pedagogy, and the mentoring in educational practice strengthened the scientific-teaching practice. Have been known more of its manifestation forms:

- Assistance in independent work of pupils and students;
- Guiding the development of individual papers (Bachelor's, Master's and
- Doctoral Papers);
- Internship of new workers (working introduction);
- Hesitations and pedagogical practice in the training of teachers;
- realization of definite Practicum (Workshops).

However, is absent: theoretical treatment of this problem and formal performance of mentoring function, just there where it is set as a norm. And you must know that setting of mentoring as a norm is just a confirmation of its necessity. However, the absence of the theoretical treatment of this problem leads to a different understanding of the term mentor and mentoring. Thus, in the practice, the term mentoring can be found related meanings, such as the following in *Webster's Dictionary*:

Sponsor - someone who takes personal responsibility for another one; patron; financial sponsor of a particular event.

Tutor - private (personal) teacher; lowest teacher profession;
senior student with responsibility to help the younger ones.

Coach - private (personal) tutor; coach in athletics.

Mentor - Mentor - a friend of Odysseus and tutor of his son;

Mentor - an experienced and trusted friend and advisor..

The absence of a theoretical treatment and empirical research on this phenomenon leads to it, at least in our country, the institution mentor and preparation for its performance hardly mentioned. These two basic phenomena were the reason for the treatment of mentoring in this paper: for a start, only a modest theoretical approach to develop a model for preparation of mentors as a reference frame which would serve for the future empirical valorizations and theoretical generalizations.

Mentoring, as a process of guiding the individual in the way of his independence, as many other valuable pedagogical categories, its roots, not only etymologically, but as well as a practice.

John Dewey in its experimental education used the group work through modifying the personal experience, fully development of individual skills, gaining experience in mutual cooperation, fight in opinion and building of social relations in the mutual relationship and based on the division of work in the group to solve the tasks, so the results of the work to be checked in working together.

Vashburn Vinetka - plan accepted the group work and emphasized the value for formation of habits for social life and for development of social forces. The idea of teaching socialization and application of the group form of work is also developing in the "work school" in Germany.

In theory and practice shaping of the group work an importance role has *Peter Petersen* known for its Jena-plan and in the organization of school work, where basis is the sociological moment. The work in the school is based on group work, in which children work freely and completely independently. Particularly is emphasized the educational value of the group work, which is the basic form for adoption of knowledge.

According to August *Vitak*, the group work is a collective clever work of the whole class divided into groups, and *V. Lustenberger* - under the term group work understands all forms of school activities, which stimulate the memorizing, exercising and repetition, as well as the mutual cooperation of students, which takes place in an atmosphere of the greatest opportunities of freedom[2].

According to *Ernest Mayer*, the group work is a social form of work. It is work in a small social circle, in which based on the mutual connection of individual members, each individual determines and manages towards a common goal, but also towards the other members of the community.

German specialist in didactics *Karl Shteker* gives the broadest and most comprehensive definition of the group work in the teaching: group form of teaching is such a thing within the educational entirety which puts into work individual groups of presenters as real carriers of the educational process, and enables the educational entirety use the results of the work of all participants[1].

In above definition for group work are included several elements:

- The group work enables the independent activity of the presenters separately, but also grou activity of presenters in adoption of educational content;
- Provides the most favorable sociological and psychological frameworks for establishing of interpersonal relations in the teaching process;
- Put participants in a situation of real social life and allows regular and full development of the social behavior of the young people.

Therefore, the group work is a form of organization of teaching work in which the student collective for some time is divided into small groups, which under the most favorable psychological and sociological conditions independently work on adoption, repetition, determination, exercising and applying of the educational content. Moreover, the members of each educational group develop and improve their abilities for independent work, develop and improve the forms of social behavior, and thus are prepared for life and work in larger communities in the further life and are trained for self-education.

The course of work in the group teaching process is significantly different from the usual system of teaching process. The didactic articulation is significantly different from that in the frontal teaching. It lacks certain elements such as for example: lack of professor lecturing (assistant), the teaching process does not keep on impression of the teaching educational content, but apply different types of expression. Does not change the image (appearance) in the area of educational group, as well as in sense of allocation of foreign presenters, so well in terms of the relationship among Professor, Assistant and the Students and among the students themselves. Articulation of the process of work per the group system is far different in some authors. For example, the author Firth devised the group teaching work as follows:

a) The first stage is division of the task which includes in itself:

- Planning,

- Motivation for group work,

- Division of the working groups, and

- Providing guidelines.

This stage of Firth is a preparation for group work. Through it are made efforts the educational unit to perceive the problem with which will be engaged; to become a clear path per which will solve the problem and properly execute the supply of the most necessary means for presentation and for its solution.

b) The second stage is performance of work in the groups;

c) The third stage is arrangements of the work results (submission of results, examination of the results and discussion about them).

Another author is the German Professor August Vitak and according to him the group work is characterized by two stages:

1. Act of request, exploration and production, which take place only in groups of 3 students /pupils;

2. Act reporting, testing, checking and discussion that takes place in educational whole. There is a concrete explanation:

a) act of request is a requirement of new examples,

b) act of research is coming to new knowledge,

c) act of production is the creation of separate creations.

However, despite these two stages, August Vitak recommended that the work of the Professor (Assistant) to comply with certain requirements, and they are:

- To determine a topic or problem common in educational group, possibly to divide in more special tasks:

- Counseling in all groups - all of them to argue for received tasks' as for their meaning, as well as for the manner of their solving;

- Consideration of the educational group into discussion circle (in the form of a horseshoe); and

- The group's report, then discussion in regard to the report, and finally recording the final result.

From these few requirements, it is clear that August Vitak assumed certain moments that serve as preparation for the group teaching work. Therefore, we can emphasize that the didactic articulation of work for the group teaching process consists of several certain elements.

The organization of the group work in the teaching process could be analyzed into three elementary stages:

1. preparation of the group work,
2. work performance in groups and
3. integration of the results obtained by the group work.

In which way is derived the preparatory or introductory phase, greatly depends the performance of the group teaching work and the joint final work. The preparation performs frontally in more cases, i.e. for the whole educational group together. It is necessary for all present participants to get a general review and orientation in the task - the problem that will be processed in a group. Regarding the preparation or introduction of students we can give them some basic knowledge required in equal measure for all groups. In further procedure, the problem parses or analyzes in numerous narrower issues, integral parts, components or tasks, which will be decided independently by the groups.

In this way, should be considered the basic stages, through which should be solved some tasks. With such common division of the educational potential, we psychologically orient them to group work. After reviewing the problem, professor (assistant) pre-formed groups are assigned specific tasks. However, students are not yet ready to join, because the lack of ignorance of the ways and means of work. After consideration of the problem as a whole, the Professor (Assistant) of the pre-formed groups assigns specific tasks. However, the Students are not yet ready to join, because they lack of ignorance of the ways and means of work. After assigning of the individual tasks, the Professor (Assistant), according to the nature and type of the tasks, gives specific instructions, i.e. work orders for the technical work, the use of educational means and the way of result recording of the work.

In the beginning of the work, when the students are introduced in the group teaching process, the guidelines should be expressed in details and should be verbal, while later on, they become more complex and may be issued in writing. One guideline for solving any task should include several elements. Thus, for example, written instructions may generally contain the following information:

- the title of the task which should be performed (to examine, solve, check experiment, practice and etc.),
- the use of teaching means,
- teaching aids (literature),
- material collection independently
- monitoring and observation of phenomena,
- result reporting in order to be informed,

- problem solving and alike.

However, is recommended the requirement how the students can submit a report, whether orally or in writing, by way of a video presentation, etc.

Correctly formulated written assignments may per the nature of the topic and the need, to provide the students one or several days earlier to think over it, to gather material, to show interest previously about it, to inquire, to settle their foreknowledge and in advance to enrich their mind with new content for easier perception. So, in the preparatory or introductory phase it is necessary to make the work schedule, the work division with all necessary instructions for proper understanding of the theme and technique of work.

After common general guidelines, follows work. After carrying out of the preparatory work, follows independent group work.

At the beginning, each group approaches towards realization of the assigned tasks. At first, the group studies the task and makes internal division of the work and its organization. In particular, it depends on the nature of the task. The head of the group looks after each member of the group to have a specific task, to do something. It should be paid a special attention it does not turn into a sitting, but in working together. In a joint work should make arrangements, consult, advise and comment on specific points. During the work, the students make notes, make concept about that what they read, independently use the sources of knowledge, quietly agree, often leave the desk, take, carry, etc..

Finally, the discipline should not only understand that to be silent. In such working conditions to forbid the conversation is illusory. First of all, you should previously regulate the intensity of the conversation and be reduced to acceptable measure, it not to turn into a general noise and over shouting. The conversation may be of such intensity that the students can mutually understand.

Certain conflicts may occur in the groups which often manifest quarrels, beatings, taking away and destruction of work equipment and reporting the teacher. All such things should be removed timely by the help of appropriate educational measures.

During the presentation, the students/pupils make notes, graphical reporting things. The registration procedure may be different, and with the way of making notes they should be specifically practiced, because for them is very difficult. It is a particular problem as they practice, i.e. to make notes. The notes help them in the transfer results in the whole educational year. In the adequate concrete situation, the Professor (Assistant) is monitoring the groups, controls the work, assists, advises, encourages, gives additional instructions, makes remarks, so that in his hands he has control over the entire work. In addition, the students in a case of need address to the Professor (Assistant).

The group in its work must be constantly oriented to presentation / reporting, discussion of the topic, and the moment of responsibility before the academic group and the Professor (Assistant) is a psychological incentive for more intensive work. After completed task, the group members understand it as a whole and are preparing to submit a notification. However, is best every member of the group to participate in submission of the notification. Thus, for example, if a student makes an explanation in general, the second one makes attempts and etc. Usually is practiced the groups not to determine which group will submit a notification, but they want each student can be called by the Professor (Assistant) in order to submit a notification. This way ensures each member to know the results.

The third stage of the group teaching work is the most characteristic because they submit assessment results. This is again done by working together of all present. The overall work, its meaning gets at this stage, where the groups submit notification for its work and summarize and evaluate the results of the

work of individual groups in a whole. The German specialist in didactics Ernest Meyer in this stage sees a higher purpose of the group work:

"For example, what the student explored in the group work, it must be transferred to his colleagues in a form of teaching. It is not an exaggeration if we establish that the double activity of the student - research and teaching - the learning process has risen on much higher level"[1]).

However, the group work shows its result just in the third stage, when the presenters-speakers are placed in the role of teachers, reporters, with which the student gets a new element. Thus, the research by the students integrates with their teaching and the learning becomes very valuable.

In summarizing and assessing the results of the working groups may precede the notification of the leader / manager of the group. During the work, the management of the Professor (Assistant) had control and advisory nature, and at this stage, the teacher took the immediate role. The Professor with his issues and requirements (explanation, demonstration and stating examples) unites the partial assignments in a whole. The success of this stage and the entire work process depends on the Professor (Assistant) and his skill in organizing of the integration, as well as the ability of the students to make their works available for others, i.e. someone else works to understand and assess, and connect them as a whole. All participants took participation in the integration. But the Professor (Assistant) must not be impatient, he should let to educational participants to expose freely, the groups to discuss mutually, while he is limited only on appropriate incentives, directing and skillfully makes sense of the discussion course. The stage of synthesizing casts light and shadow, praise and criticism of the work in the separate groups.

The forms of synthesizing can be different. The leader / manager of the group, or some other member are reporting for the work and the result of its work.

The report of the group work can be accompanied by writing some data to the blackboard, with a table, demonstration, experiment, a quote from a book etc. The other members of his group accompanies the notification, therefore, it is necessary all members of the group to be prepared for the report.

The Professor (Assistant) may in the course of the notification to interrupt the presenter, if it is necessary for correction, and at the same time can help. It is especially important, after the presentation for easier understanding, to give a brief summary. It is necessary especially when the students did not succeed. After the presentation, the submitter gets additional questions, which usually requires a detailed explanation, argumentation of certain suppositions with examples, supplementing of the report etc. Moreover, questions ask also the Professor (Assistant). Based on the report and asking questions is developing a free conversation about the problem itself, for the work of the groups and the manner of reporting of achieved results. It is a difficult stage for the Professor (Assistant), because he has to take care and all students to cause conversation, discussion, opposition regarding the topic, the opinions to be accurately explained, the allegations sufficiently to be argued, not to turn it from the basic problem, the conversation and the critics to have a cultural tone with youthful temperament. Those moments in teaching are of great importance, as have had very little until presently.

We can conclude for the organization of the group teaching process that the educational unit receives a task, the groups work independently on it and for the results again is reported the educational unit. It is the true sense of the group work in the teaching process. However, these stages should not be seen as rigid schemes, through which has to pass each teaching unit. But, it also depends on the degree of practice of all interested, from the professor itself and teaching educational content. These stages should not be seen as separate structural parts of a class, so that their duration shall not be included within a class of 45 minutes. Mainly, this extends across multiple classes, and often a week and more. Moreover, presentation of previous elements must not be identified with the structural parts of the class.

CONCLUSION

Detailed structuring of didactic articulation of the work process in the group teaching process allows us to introduce with the positive aspects of the concrete manifestation and realization of: pedagogical, psychological and sociological values.The successful application of the group teaching process provides proper attitude in the learning, the play, the work together and in the recreation. In the group form with joint working on some problem is developing the working collaboration among the students. It has a great educational significance; through it, we develop a sense of constructive, collective work, mutual solidarity and understanding in the working community, the feelings for cooperation are developing, and in this way, is dispelled the confinement, isolation, individualism and etc. Upon the intellectual, educational and moral plan, the group work form has several advantages relating to other teaching forms for work, and that we learn it through the following pedagogical dimensions:

- Developing of work habits for work in the group;
- Successful fostering and developing of the critical and creative thinking;
- Equalizing the pace of learning or helping to the students who fall behind;
- Practicing to bargain for cooperation and joint work;
- Rational use of available time of the class in all educational areas and subjects;
- Developing the conscious student activity, altogether with personal and group responsibility and Intrinsic motivation;
- Development of democratic components in teaching process;
- Training for evaluation of individual and group achievements;
- Development of human sexual relationships in teaching process and greater freedom of the present individuals in all stages of the teaching process, democratic atmosphere in the educational work;
- Successful training of the students for independent work and independent adoption of knowledge;
- Awakening and developing of interests for more durable and responsible adoption of the prescribed educational teaching content.

In parallel with the pedagogical values, also are significant the psychological values for applying of the group work form. Numerous theoretical and practical experiences show that most of the present students are admired by the group work. All life is in a community, so that is quite normal that the adults and young people seek to be in groups. The group is a natural form of communication of the people. In the group work, the human moods are joyful, enthusiastic, cheerful and affectionate. They jointly share the success and failure. The Success strongly motivates the participants in the group to achieve greater results. Its quite normal for the young people to live and work in groups, when particularly are manifested the attempts for socialization and work in larger communities.

The work in the groups helps in creating a favorable working atmosphere and emotional balance. The work in groups brings vitality, dynamics, constant exchange of knowledge, experiences, moods, the

communications are frequent, various, the students feel more freedom in work and learning. Certain participants more successfully adapt to the smaller groups than to larger collective.

Important are the following psychological values:

- Mutual coexistence;
- Group solidarity (mutual assistance);
- Training the students to listen to the others in the group;
- More quickly adaptation of teaching situations;
- Fostering the skills for understanding and acceptance of other people's views and attitudes;
- Development of mutual tolerance;
- More successfully development of the capabilities in the field of speech cultural expression;
- Adapting and successful development of the overall thinking activities and etc.

The educational participants in the groups deepen the acquaintance and friendship, and in the same time create new and permanent relationships. The individual in the group is protected and can broadly demonstrate his physical and intellectual abilities. Bringing presenters together and working under common conditions have large and pedagogical-psychological and sociological values.

There are numerous reasons, which in the modern education, affect upon the student sociability, and among them are the following social values:

- Fostering and developing of the friendship and its relationships in younger and larger groups of presenters from different age group;
- Raising awareness through joint work may achieve greater working effects;
- Continuous and organized creation of their own opinions, views, interests, beliefs, ambitions, better getting acquainted own personality and identity and etc.

Finally, it should be understood that the group form of work enables each individual to achieve maximum results in its work.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

MODERNIZATION OF EDUCATIONAL PROGRAMS IN NANOTECHNOLOGY (EXPERIENCE OF KAZAKH NATIONAL TECHNICAL UNIVERSITY)

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Abstract

Accumulated scientific potential of the universities may become as the basis of modernization of educational programs to be formed for training of specialists in science intensive sectors. Orientation of education on results and achievements of domestic science schools after due consideration of world experience and initiatives, taken by the State, allowed to substantiate the modernization of educational programs in nanotechnology at Kazakh National Technical University. Scientific support of upgrading is focused on main purpose of the training – to organize and raise training level for high qualified specialists in nanotechnology. Using of updated, science-oriented educational programs, which are connected with real innovative projects, is essential for achieving nanotechnology training goals. Modernization of educational programs gives new professional opportunities for future specialists, which will engage in research and developments in nanotechnology.

Key words: *Educational programs, nanomaterials and nanotechnology, areas for research and development, modular and competence-based technologies of training, disciplines and modules*.

1. INTRODUCTION

Nanotechnology is considered as one of the priority directions of science in Kazakhstan that ensures diversification of the economy and sustainable development of the country. Scientific advances in relevant area of knowledge and technology may contribute to further reorientation of Kazakhstan's economy on innovative development and withdrawal from a raw orientation. The development of high-tech industries is aimed on providing of technological breakthrough and high competitiveness of our state. In this connection there is an urgent need for training of competitive, high qualified specialists with a grasp of long-term trends of the industry, which are able to engage in large-scale research, to work in high-tech, solve new challenges of science and production.

A prospect for the development of nanotechnology is largely determined by the quality of training in this area, so, educational research, particularly, connected with updating of corresponding educational programs is very topical.

"*It is necessary to get rid of outdated or unclaimed scientific and educational disciplines and simultaneously strengthen needed and promising directions*" – said our head of state in its annual political message to the people of Kazakhstan (Nursultan Nazarbayev, 2012).

2. KAZAKHSTAN'S SYSTEM OF POSTGRADUATE EDUCATION

Educational activity in Kazakhstan is regulated by the *State mandatory standards of education* (SMSE), which are preparing in accordance with the list of specialties included in *Classifier of specialties* for high and postgraduate education of the Republic of Kazakhstan.

The definitions of key notions used in education are given in SMSE, such as the following:

"specialty - is a definite set of knowledge, skills and abilities needed for certain professional activity, obtained through purposeful training and experience and supported by relevant documents";

"educational programs - is a combination of knowledge, skills and abilities in a specific area that are focused on the usage by the students of certain specialty".

Educational programs are realized on the basis of SMSE, which define the requirements for the structure and content. They include curriculum, study complexes of disciplines, practice programs (educational/professional) and individual program of research. Theoretical training by *basic and profile disciplines*, the practice, research work (including dissertation) and attestation are implemented following the structure of educational programs. The cycle of basic disciplines consists of *compulsory* and *elective components*. All profile disciplines relate to elective part (component) of the program.

The list of disciplines of compulsory component is determined in accordance with the specialty of training. Appropriate minimal educational credits for disciplines of compulsory component are given in SMSE by the specialty. Training by the disciplines of compulsory component is realized with the help of *standard programs* approved by the Ministry of Education and Science of the Republic of Kazakhstan (MES RK). These disciplines are invariant with respect to others, which are universal, because intended for use by all institutions having license to train in this area.

The list of elective disciplines and appropriate minimal educational credits is established by the university independently in accordance with the needs of employers and labor market.

Taking into account changing needs of the economy, educational documents derived from the MES RK assumed to update periodically. So, at the beginning of 2013 study year, the changes of Classifier of specialties were already scheduled in order to move to qualitatively new stage of the development in accordance with modern economic needs. Respectively, the revision of educational programs will occur. In this regard, we have conducted the analysis of existing training programs by specialty "Nanomaterials and Nanotechnology" with preliminary study of international training experience in this field.

During the research from the position of possible modernization of educational programs, this sector of training has been considered, on the one hand, as a pedagogical system aimed on meeting the needs of individual student for developing his abilities, on the other hand, as a system of training that is directly connected with government policy of the creation and development of Kazakhstan's nanotechnology industry. Updating of educational content is intended for elective component of magisters' educational program by specialty "Nanomaterials and Nanotechnology" (NM and NT).

3. METHODOLOGICAL APPROACHES TO THE TRAINING OF SPECIALISTS BY SPECIALTY "NANOMATERIALS AND NANOTECHNOLOGY"

The research of Kazakhstan's nanotechnology market, its potential and prospects of the development allowed to substantiate needful modernization of the structure and content of basic educational documents that define the nature of the training of future specialists in NM and NT.

The study of international experience has shown that for most countries the training in NM and NT is characterized with the combination of fundamental training by natural science and modern engineering training, which is focused on innovation in high technology. Training of specialists in this area does not often cover all levels of education. For example, most universities in the UK, France do not offer below the level of magister (master) in nanotechnology training. On master's level it can be credited students with a bachelor's degree by one of the natural sciences or engineering disciplines (not necessarily in nanotechnology). Several British universities offer so-called integrated program of bachelor and master with a term of 4 years of training. Students, who mastered this program, awarded Master degree in nanotechnology. Doctoral study in nanotechnology is presented in almost each technical university of the EU countries, if there are even no educational programs bachelors or masters in nanotechnology (eg, University of Oulu, Finland).

In Kazakhstan, due to the fact that the development of nanotechnology is at an early stage, the beginning of the training for this sector of education relates to the system of post-graduate education (preparation of magisters and PhD - not bachelors). So far only doctoral level of training in NM and NT was licensed, but magister's training has already started and the development of scientific and methodological, organizational and technological basis in full swing. So, some results of the research carried out by the authors of the article in the course of the project commissioned by the MES RK and dedicated to the development of post-graduate training in nanotechnology are given in this article.

It is necessary to note that nanotechnology training in Kazakhstan has own specificity. There is differentiation by application areas: *nanoelectronics, chemical and mining industries.* This is due to the current priorities of scientific and technological development to ensure the diversification of the economy of Kazakhstan that is giving new impetus.

If such applications as nanoelectronics and chemical industry are considered as traditional for nanotechnology sector, then introduction of mining industry in nanotechnology training is caused by the circumstance that mining branch is the key and historically formed industry in Kazakhstan's economy. Creating of nanotechnological direction of the training for mining and metallurgy application is connected with the fact that mineral materials can be regarded as an example of nanosystems, and the interface between the components of minerals (quartz, magnetite) is also considered as nanoobject. So, in Canada, Australia, South Africa the mining companies actively begin to use already nanotech in its activity (see review «Nanotechnologies: Applications and Opportunities for the Mining Industry», Victor J E Jones, 2005, CFST Ventures Corporation, Canada).

As is known, without real research work as important element of educational infrastructure for any university, the training will have a formal character. Hence, mandatory introduction of educational components related to scientific research into curriculum as well as the introduction of significant research work is prescribed in a number of universities in the U.S. in accordance with the program NNI (National Nanotechnological Initiative). In addition, there is a serious methodical support, as a rule, using the modular principle for all levels of science-oriented education.

Noting the important role of scientific schools that are forming at the universities of Kazakhstan by mentioned areas of nanotechnological activity, it is necessary to emphasize just they are able to bind real needs of nanotechnology and nanoscience with preparation of highly qualified specialists. These scientific schools will determine the environment, in which innovative, highly intelligent professionals may appear and grow.

Thus, the modernization of educational programs in NM and NT is based on the following methodological positions:

- the orientation on international advanced level of the development of nanotechnology in the most promising areas with ensuring of integration in training system;

- the assessment the real state and prospects of science and technology in Kazakhstan, that determines needed directions of training for economy development.

4. AREAS OF RESEARCH AND DEVELOPMENT IN NM AND NT AND THE APPROPRIATE TRAINING OF SPECIALISTS

In order to realize the training with the orientation on scientific schools there were identified promising areas of research and development in the frameworks of innovative projects of leading scientists at Kazakh national technical university (KazNTU). All of them are implemented on the basis of existing or created laboratories of the university, using unique research equipment (instruments, installations, measurement systems, etc.). Achieved results of implemented scientific developments are in demand and interest of various companies both domestic and foreign. Beside of it, state support is guaranteed in this area of research in accordance with government programs of economic development.

Reliance on research and developments allows to build a reasonable training and research work, to form and update curricula for magisters and doctors in NM and NT. It becomes possible to use scientific, informational, organizational resources to carry out research in the field of NM and NT at high scientific level, to introduce concrete results of research by priority areas into the learning process. That is *the presence of scientific schools by priority areas of nanomaterials and nanotechnology is regarded as the main condition for the modernization of corresponding educational programs*.

The development of updated courses of academic disciplines in line with current scientific trends is focused on theoretical training and acquisition of practical skills through the introduction of *modular structure*.

In general, updated design of educational program meets the principles of consistency and efficiency to ensure the integrity of education in this area of preparation and correspondence with the qualification requirements to specialists in nanotechnology.

Let's consider in summary form the content of some priority research areas in the context of formation of updated educational program on the basis of modular and competence-based technologies of training. Accordingly, the design of the training by specialty will be linked to real scientific problems that are solved in the course of research and development in specific field.

Promising areas of training in nanotechnology are given in tables 1-5 in conjunction with research areas of scientific schools in KazNTU. Corresponding disciplines and modules for learning are focused on certain goals and objectives of relevant field of study.

4.1. The synthesis of nanostructured carbon materials

Fundamental research by the development of nanostructured organic polymeric solar cells for transformation of solar energy as well as nanocomposite materials based on carbon nanotubes have the status of priority directions in nanotechnology in Kazakhstan. The results of this research area connected with

- creation of CVD-systems by induction heating for growing of multiwall carbon nanotubes (MWCNT);

- production of carbon nanotubes and nano-composite materials consisting of polymers and nanotubes, which serve for many modern nanostructured functional devices;

- obtaining of solar cells of new generation based on organic polymer.

Based on the above, there were offered training disciplines according to the research within the frame of scientific school (see table 1).

Table 1

Area of research and development	**Goals and objectives of relevant field of study**	**The content of training (disciplines, modules for learning)**
The synthesis of nanostructured carbon materials	- getting in-depth knowledge of physical, chemical and physico-chemical processes and also methods, techniques and tools for producing of carbon nanostructured materials in order to make research and developments at modern level	1. Discipline: "The perspective carbon-based nanomaterials" Modules of discipline: •Carbon nanotubes •Polycrystalline diamond •Graphene • Fullerene • Metal-carbon nano composites •Apply of carbon nanomaterials 2. Discipline: "Methods of carbon nanomaterials synthesis" Modules of discipline: •Chemical vapor deposition (CVD) •Electric arc sputtering of graphite •Plasma-chemical deposition (PECVD) 3. Discipline: "Modeling of NT processes"

The projection of this research direction on the education has led to pedagogical design of the content of a variety of disciplines, including individual modules aimed on the formation of specific professional competencies (see Table 2).

Table 2

Disciplines	**Modules**	**Goals and objectives of learning**	**Professional competencies to be formed**
The perspective carbon-based nanomaterials	Carbon nanotubes (CNT) •Apply of carbon nanomaterials	- study the structure and properties of CNT, methods of growing and application	- ability to work on the laboratory equipment on the base of obtained knowledge
	Polycrystalline diamond (PCD)	- study the unique properties and structure of PCD, methods of making and using	- ability to use obtained knowledge in the research of properties
	Graphene	- study graphene properties as prospect material for micro- and	- ability to use obtained knowledge in the

		nanoelectronics, methods of their obtaining	development of methods of graphenes obtaining
	Fullerene	- study the features of carbon bond, functional purpose, application	- ability to use obtained knowledge in comparative analysis of carbon NM
	Metal-carbon nano composites (MCNC)	- study physical and chemical properties of MCNC, their carbon matrix, the nature of phase interaction	- ability to use obtained knowledge in comparative analysis of carbon NM
	Apply of carbon nanomaterials	- study the prospects for the use of carbon NM as a basis of stabilizers and preservatives in electronics and robotics	- ability to analyze the application from the position of efficiency of properties
Methods of carbon nanomaterials synthesis	Chemical vapor deposition (CVD)	- learning the mechanisms of chemical reactions of solid phase deposition involving gaseous compounds (CVD-process)	- ability to use theoretical knowledge in the work with CVD-reactor
	Electric arc sputtering of graphite	- mastering the technology of electric arc sputtering and ultrasonic dispersion for components separation	- ability to use theoretical knowledge of mechanisms of fullerene structure formation from the plazma
	Plasma-chemical deposition (PECVD)	- learning basic chemical laws, kinetics and plasma physics, types of discharges used in plasma chemistry	- ability to use theoretical knowledge of plazma-chemical technology for concrete applying
Modeling of NT processes		- mastering mathematical algorithm of modeling of time-dependent processes of synthesis of CNT	- ability to analyze the features of CNT and use methods of mathematical modeling

4.2 Nanoelectronics

Nanoelectronics is the other important area of nanotechnological activity, where is the possibility of breakthrough. This is due to the needs of miniaturization of electronic components that form the basis of information and computer technology. The development of this research area can lay the proper scientific basis for the development of appropriate educational infrastructure that is needed for achieving of training objectives of competitive specialists in NM and NT.

In Kazakhstan, nanoelectronics is a young research area that appeared as a result of the development of solid-state physics, physics of semiconductors and dielectrics, microelectronics. These disciplines have determined the selection of new disciplines ("Nanotechnology in Electronics", "Microelectronics and Solid State Electronics") for this area of preparation (Table 3). The important role of this area of training plays international experience that made necessary learning of nanodiagnostics, nanoengineering of nanomaterials.

Table 3

Areas of research and development	**Goals and objectives of relevant field of study**	**The content of training (disciplines, modules for learning)**
Nano electronics and methods of analysis and diagnose of NM	- getting knowledge of physical processes in nanosystems; studying element base of nanoelectronics and components of microsystem technique in order to use special methods of analysis and diagnose of NM	1. Discipline: "Nanotechnology in nanoelectronics" Modules of discipline: • Element base of nanoelectronics • Nanosensors 2. Discipline: "Microelectronics and solid state electronics" Modules of discipline: • Microelectronics and microsystem technology • Optoelectronics • Diagnoses of integral microsystem 3. Discipline: "Special methods of analysis and diagnose of NM" Modules of discipline: • Methods of transmission and scanning electron microscopy • Methods of probe tunneling and atomic force spectroscopy • Nanolithography • Methods of diagnosis of semiconductors

But taking into account views of Kazakhstan's leading scientists in this sector of science, it was appropriate to introduce into educational program by specialty NM and NT the discipline "Physical Chemistry of Nanostructured Materials" (in our case it is given in next area of research). Kazakhstani scientists suppose, at present "nanoelectronics is presented as a bank of ideas, which only used to a small extent in industry" (E.E.Ergojin, E.M. Aryn and others, 2010, p.90). This circumstance "gives the opportunity for Kazakhstan to take own place in international division of labor in given field, as countries with different levels of technological development are still in about the equal position towards nanoelectronics" - scientists say. "The physical chemistry of hydrophilic polymers is considered as scientific basis of Kazakhstan's initiative in the field of nanoelectronics". "Kazakhstani physico-chemical schools in this field traditionally occupy a position that no inferior to research groups from the most developed countries. The breakthrough is possible to implement on this basis "(ibid.).

4.3 Nanochemistry

In KazNTU, scientific direction of nanochemistry develops in studies by regulation of properties of disperse systems and surface phenomena. Problem of stability of nanodisperse systems is solved on the base of systematic study of surfactants, polymers and mixtures thereof. The successful development of

ISSN 1313-2571, Published at: http://www.scientific-publications.net

this area of research allows to be concentrated on the studies with subsequent projection on educational process.

That is why disciplines and modules given in the table 4 were included into educational program by specialty "Nanomaterials and Nanotechnology (for chemical industry)". They are focused on concrete professional competences, namely:

- understanding of the behavior of nano chemical components and the ability to predict their stability and physical-chemical properties;

- understanding and ability to solve the problems of stability of nano dispersed systems;

- ability to apply polymeric nanomaterials knowledge in specific field of research and development.

Table 4

Areas of research and development	**Goals and objectives of relevant field of study**	**The content of training (disciplines, modules for learning)**
Nano chemistry	- understanding the problems of nanochemistry, the prospects of development in order to have idea how to get new functional nanomaterials knowing their structure and properties and be able predict the physical and chemical properties through the synthesizing of the knowledge gained in the course of general, inorganic, physical and analytical chemistry	1. Discipline: “Physical Chemistry of Nanostructured Materials” Modules of discipline: • Nanochemical components • Mechanisms of nanosized chemical effects 2. Discipline: “Colloidal nanochemistry” Modules of discipline: • Nanochemistry of disperse system ans surface phenomena 3. Discipline: “Polymer nanomaterials” Modules of discipline: • The principles of functioning and applying of polymer nanomaterials

4.4 Structural nanomaterials

Active research is carried out in the field of structural nanomaterials, therefore it was the sense to focus on relevant research and developments with the perspective of introduce research results in learning process. According to this promising direction, extensive studies are conducted in many countries. So, to date disperse-reinforced composite materials based on aluminum alloys have the most widespread. Such materials can be obtained by mechanical alloying (processing of powder in mechanical activator and subsequent consolidation). In this direction, the research of the formation of bulk ultrafine (nano) materials and surface modification of materials are actively developed in Kazakhstan. Accordingly, it was reflected in educational program through including the course "Nanodispersed powders" and modules "Equipment for the formation of nanosized materials," "Peculiarities of nanoscale structures " (see table 5).

Table 5

Areas of research and development	**Goals and objectives of relevant field of study**	**The content of training (disciplines, modules for learning)**
Structural nanomaterials: *development of nanocomposites for use in constructions*	- formation of scientific thinking of specialists having knowledge in nano-composite structural materials; mastering of skills for application theoretical, experimental and computational methods to solve practical problems of nanocomposite materials technology, the creation of structural nanomaterials.	Discipline: "Nanodisperse powders" Modules of discipline: • Equipment for the formation of nanosied materials • Peculiarities of nanoscale structures

Moreover, taking into account international links and partnership between our university and some foreign universities in the frame of educational integration in nanotechnology, as well as research works by the development of new nanocompositions for specific applications in laboratory of material science and nanotechnology in KazNTU it was also reasonable to consider research results of this area for use in learning process. As a result, on the basis of theoretical knowledge and practical skills, needed professional competencies by the technology of nanodispersed materials formation with the understanding of development prospects to be formed.

It is important to note that the use of modular technology during the learning of given disciplines is very meaningful. Preparing of specialists for high-tech industries means intensive use of technical devices, instruments in training process. Equipping of educational process by special experimental, diagnostic and metrological equipment together with effective use according to interests of students can be realized within the individual *modules of training*.

Using a *competence-based* approach to the development of educational program is caused by the need to establish a link between the objectives of study disciplines and concrete training results in terms of professional competencies characterizing of specialists in HM and NT. The overall result of the training is achieving of such educational level of learners, which provides effective professional activity of future specialists in NM and NT.

Professional competency, acquired in the system of post-graduate education, is usually considered as the aggregate of general professional (invariant) and special professional (variant) competencies. Elective component of the training, mainly aimed on the formation of special professional competencies. However, it is not possible to form all necessary competencies during the disciplines learning. That requires the development of various forms of educational activities related to intensive research work in university laboratories in order to solve specific problems. The proper scientific atmosphere, which arises in the course of studies and solving of large practical problems, creates research spirit and contributes to the development of additional professional competencies.

5. ABOUT THE POSSIBILITIES OF AN EDUCATIONAL PROGRAM FOCUSED ON RESEARCH DIRECTIONS

Orientation on research directions developed in the framework of innovative projects of scientists of KazNTU allows providing reasonable modernization of educational program and real link between science and education through addressing specific challenges of the industry. As advantages of such approach to organization of educational programs can be called the following new opportunities:

- learning of theoretical material that is built on real practical developments;

- efficient use of complex and expensive scientific equipment (eg. installation for the synthesis of carbon-based nanomaterials);

- software for process modeling (eg. Termo Calc).

Successful development of promising scientific areas promotes not only a competitive market of nanoproducts, but, at the same time purposefully provides the quality of graduates, who can effectively carry out activity in developing nanotechnological sector. In fact, the training adapts to specific activities and the real problems of the industry. Modular and competence-based technologies of the training are the most effective for planned educational outcomes (specific knowledge, research and professional skills).

Talking about the possibilities of educational program for teaching in conjunction with real researches and promising developments, it should be emphasized that the modernization of educational programs is carried out mainly at the expense of elective courses, which are variable in different universities of the country.

Since a number of universities and research centers in the country is intensively engaged with the study of nano-objects, then the creation of new scientific areas by local scientists is a continuous process. And it should be reflected in educational process of any university through methodologically substantiated provision of educational programs (similar to the presented in this paper). So, for example, at East-Kazakhstan State Technical University named after D.Serikbayev (EKSTU) are conducted extensive researches in nanotechnology by the following areas:

- natural nanomaterials,

- technologies of extraction of natural carbon nanoparticles,

- nanotechnology for opening of non-ferrous and precious metals,

- nano-films and nano-coatings,

- nanotechnology of obtaining of technical ceramic based compounds of rare metals, etc.

Moreover, on the basis of studies it was organized serial production of technical ceramics (S. Mutanov, 2008, p.6). Obviously, educational programs of training in NM and NT should build on the work of scientific schools at EKSTU, varying the content of elective part (component).

Thus, elective component of training allows to form individual learning paths of students through the free choice of disciplines in accordance with the planned objectives and the interests. But selection process should not be given to students fully. It requires a lot of work from teachers who ensure familiarity with the content, achievements, prospects of research work both in the world and in the country. Once the student learns about the opportunities and prospects for development of the real state of science and technology in the world, country and at the university, the proper professional interests and desires can appear.

6. CONCLUSION

In Kazakhstan, the development of nanomaterials and nanotechnology is a priority and aimed on the expansion that can lead to systemic changes in the real sector of national economy due to widespread production of high-tech products. Advances in this area have meaningful role for scientific and educational communities of the Kazakhstan.

Scientific results of priority areas of research plus orientation on international experience allow to form learning process at new level by upgrading of elective component of educational programs aimed on the training of specialists demanded in high-tech industries.

Agreeing with the statement that "the strategy of the development of nanotechnology can only be built on concrete material" (E. Ergojin, E. Aryn and others, 2010, p.13), there were offered methodologically substantiated educational programs, upgrading of which is based on "concrete materials".

Thereby, the experience in the development of educational programs in NM and NT based on modules and competencies with the use of achievements of Kazakhstani scientific schools was presented in this paper.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

QUALITY AS A MAJOR PRIORITY OF HEALTH CARE

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Abstract

Under crisis conditions, health care systems are not easy to reform but that does not mean neglecting the quality of the offered health care. On the contrary: it means putting the problems forward by frequent analyses and various studies, searching for methods, opinions of theorists, new approaches and introduction of low-cost technologies.

The article analyses different opinions of theorists on quality in various spheres including health care. It quotes definitions of quality given by the World Health Organization and ISO and the opinions of renowned authors that worked on quality issues. It discusses the addition of patient satisfaction as a measure of quality of services.

Key words: *quality, health care, health services, satisfaction, health needs, users, patients.*

Requirements to medical activities are a priority in the legislation of European countries and define citizens' rights of access to high-quality medical care and protection against unnecessary and incompetent treatment (Ivanova, Dimova & Gareva, 2005).

Health care quality issues in Bulgaria are also developing and following developments in other countries. They are reflected in a number of laws, regulations and decrees on health care activities that guarantee quality by means of requirements to hospitals and other health institutions, as well as by means of standards defining the type, level and parameters of each medical activity.

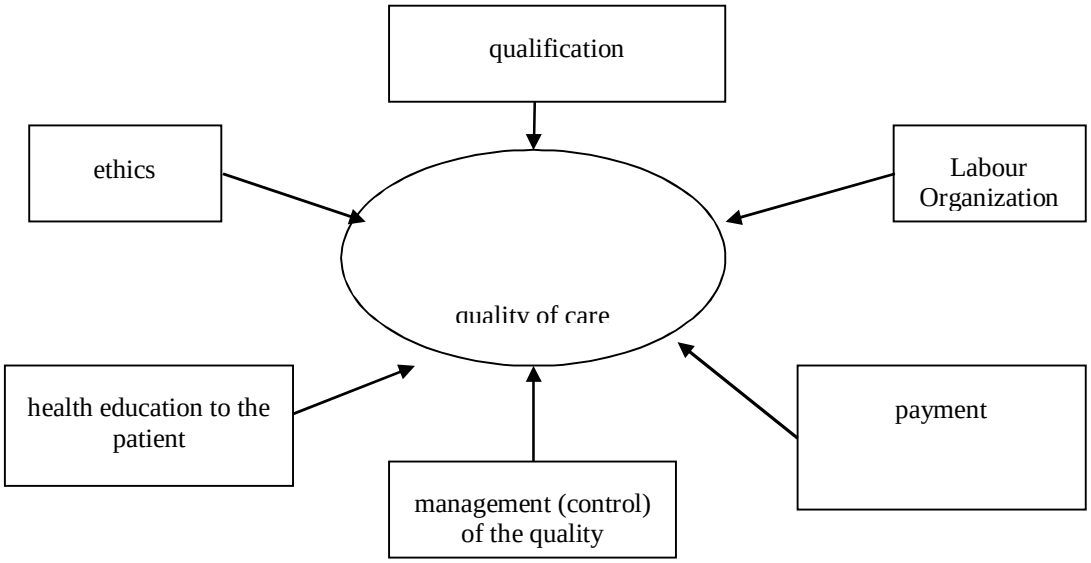
The issue of hospital care quality is especially topical due to the constantly increasing needs of the patients who become more aware and seek more information about hospital treatment and services offered (Chaneva, 2008).

There are many studies on patient health care quality satisfaction. A number of them prove that care quality in hospitals is related to patient satisfaction. Attree discusses the issues of "good" and "not so good" quality care (Atreeq 2001). Bryant, Graham, Tigar, Morin and many other authors study patent satisfaction with nursing care (Brayant, Graham & Tigar, 2002, Morin, 1999). Other authors analyze the impact of social environment in hospitals on patient adaptation and healing process. Still others study the relationships between patients and medical specialists, professional development, motivation, health care functions and training which influence health care quality.

Having reviewed the available studies of patients' opinions of hospital services, the team of Popov, B. Davidov and M. Marinov concludes that "the patient is a subject that has his needs, rights, feelings, likes and dislikes" (Popov, Davidov & Marinov, 2000).

Quality assessment is a complex of measures focused on collecting information to confirm whether the goals of a program or activity have been achieved.

ISSN 1313-2571, Published at: http://www.scientific-publications.net



Each evaluation is aimed at identifying the level of achievement of the objectives of the system. Evaluation of quality in healthcare must show how and to what extent improved the results of health services, as reflected in health status, functional capacity of the population, psychosocial well-being and patient satisfaction.

Lately, experts stress on the urgent need to get over the underestimation of patient satisfaction as a measure of health care quality assessment.

Until recently, patients' opinions were not considered sufficiently reliable and valid for health care quality evaluation because they refer rather to interpersonal relations than to the technical and qualification aspect of the activities. There is no doubt, however, that patients' perceptions and satisfaction have a strong impact on their behavior, for instance on their choice of physician, avoidance of medical care and seeking for other means (psychics, healers, doulas, self-healing, etc.), complaints, neglect of prescribed regimen, etc.

This behavior of the patients always has certain consequences for health and health care quality. That is why patient satisfaction. is now analyzed as part of actual results of health care activity (Borisov, 2004)

When evaluating results, it is critical to assess patient satisfaction with care received because, on the one hand, it shows the degree of satisfaction with patient expectations, and, oh the other hand, it contains some elements that serve as feedback for the improvement of processes in hospitals.

Patients desire to receive hospital care that satisfies their needs and expectations. These needs and expectations are collectively called **patient requirements.** Due to competition pressures and technical advance, hospitals are forced to constantly improve their products and processes, to establish systems of internal and external control on activities in compliance with regulations. The need for the hospitals to provide high-quality medical services is dictated by the requirements of the National Health Insurance Fund and also by the Regulation of the Ministry of Health on the criteria, indicators and methods of accreditation of health facilities. The concept of constant quality improvement is gradually becoming an integral part of the philosophy of health facilities. (Doraliyski, 2006)

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Consumer quality assessment is reflected in international standards (ISO 9001:2000, item 5.2.; ISO 9004:2000, item 4.3.; ISO/DIS 9000:2000, item 0.2.; ISO/TR 10014:1998, item 8). There are some interesting clarifications to be made in this respect. It is defined that customer/consumer satisfaction shows the perception of the degree of fulfillment of his/her requirements. Complaints are the most general indicator of low satisfaction with the quality of products and services provided but their absence does not mean that satisfaction is high. Even when quality requirements have been agreed and implemented, satisfaction is not necessarily registered.

According to the International Organization for Standardization (ISO), quality in general is a set of inherent characteristics of a product or a service which are related to their ability to satisfy certain needs.

According to the definition of "health care quality" accepted by the World Health Organization, this is:

- care that achieves the best health result – maximum benefit and minimum risk for the patient;
- care that demonstrates excellent professionalism of all participants;
- care that reports efficient and rational use of resources;
- care that reports high level of satisfaction and confidence of the patients.

To warrant and maintain the high quality of health care, we must know what the patient needs and desires. The source of this information is the patient himself, the one who feels pain and risks his life, either actively or passively. The starting point of health care quality is the relationship with the patient which defines and describes the methods of work with him by means of the different services provided to him (Popov, 2001).

We must bear in mind that some diseases cannot be treated but there is always something more that you can do for the patient (for instance, palliative care for terminal patients) to improve the quality of his life, in all cases by using the achievements of modern medical science. When discussing the results expected by the patients, it important to know that they do not always match the professional point of view or the available medical potential.

High quality means:

- high level of professionalism
- efficient utilization of resources
- minimum risk for the patient
- patient satisfaction
- positive impact on health.

By using the accepted definitions, we can derive the specific definition of **hospital care quality**:

It is a set of signs, conditions and properties of a hospital product or service used in the process of giving hospital care and meeting completely or surpassing the expectations of a certain individual or group of patients.

In recent years, substantial changes have occurred both in the global and national practices, for instance in the development of a new philosophy of nursing, the rising needs of health care and the mobility of health care professionals. That demands from medical specialists (doctors, nurses, midwives) the ability to organize high-quality health care on a global level by applying the holistic approach to the patient and his problems.

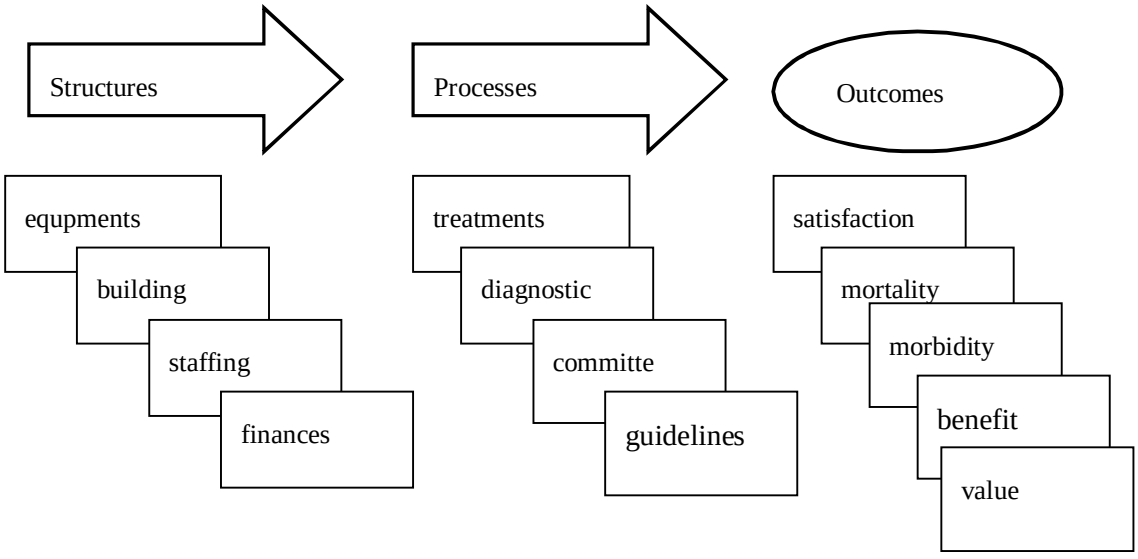
The various health care quality schemes still use the concepts proposed by A. Donabedian and R. Maxwell which are successfully applied and developed in the sphere of health care and the concepts of W. Shewhart, W. E. Deming and J. M. Juran and others that have found their place in industry and other spheres of economy.

The Donabedian concept includes:

Structure – the available buildings that house the units of direct health care provision and the ones that assist its activities; the structure and recruitment of staff, the working teams, administrative management, available techniques and equipment;

Processes – access to the respective procedures and various activities related to the direct health care provision (diagnostics, treatment, prevention, rehabilitation, etc.) or, in Donabedian's own words, "care per se";

Result or "outcome" of the process – the effect of the activity for the patient, for instance life extension, elimination or alleviation of suffering, reduction of pain, patient satisfaction with the care.



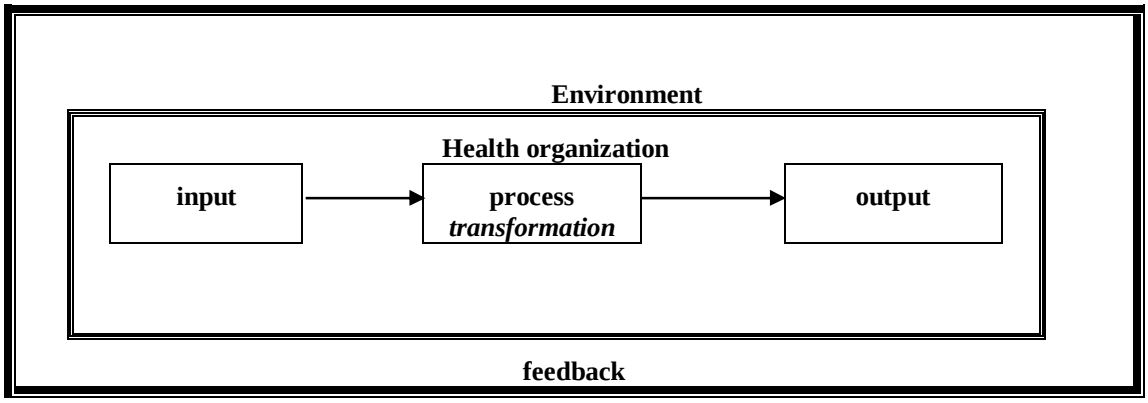
Donabedian model

The concept of R. Maxwell is broader and includes:

- Access to health care;
- Relevance – sufficiency depending on needs;
- Effectiveness – the benefit to the individual patient which can be reported is improvement or deterioration;
- Equality – health care quality should the same for rich and poor, for different ethnic groups, for city dwellers and villagers, for young and old;
- Social perceptivity – society should be able to perceive and accept the results of health care provided and the price thereof;
- Efficiency and economy – to achieve the needed effect with minimum cost of resources.

The variety of theories, concepts, models and studies prove the great significance and the continuous relevance of the health care quality issues. Many authors in health care and other spheres research the quality of services offered, the methods of its assessment and the tools of its maintenance in compliance with the development of health care systems and the changing requirements of their users. Having analyzed a small part of the opinions of different authors on health care quality, we find that it is a constant process of improvement and development which needs periodic analyses, studies and updates like any other repetitive cycle.

Borisov (2004) presents healthcare organization as a system in which the input by a particular process becomes passes in output.



System model of the management of healthcare organization

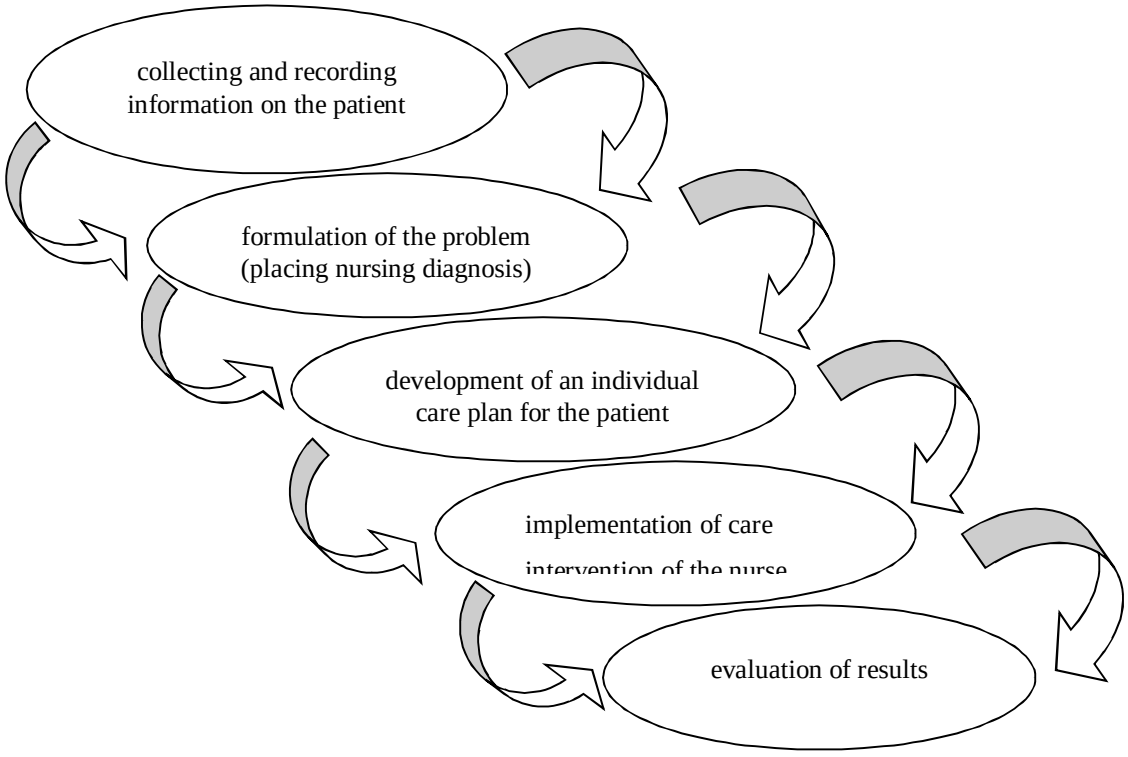
The patient and the nurse are the main inputs of the system but here we can include also other elements like materials, equipment, premises, all direct and indirect costs used to achieve the final results. The process consists of the actions of the nurse related to the final results for the patient and the actions of the management related to goal setting for nurses' behavior. The final result is described or defined from the patient point of view and the model of patient care and is most frequently measured by qualitative indicators (Borisov, 1997).

The need for nursing care is universal as people need it from birth to death. When caring for the patients, the nurse always tries to create an atmosphere of respect to their spiritual values, customs and beliefs.

The professionalization of nursing demands strong leadership to support the autonomy of nursing practice and contribute to the establishment of a solid basis of nursing knowledge and research (Marinova, 2001).

The central role of the nurse in the organization, coordination and implementation of patient care and the extension of autonomous nursing functions warrant the introduction of the "**nursing method**" concept. Grancharova defines the nursing method as a work process in which the nurse defines, performs and assesses the actions related to its own role (Grancharova, 2005). A number of authors describe concepts and theories of the approach to nursing care to define the autonomous functions of nurses.

Approach to nursing care



In recent years, the nursing profession is based mainly on the approach that allows the choice of philosophy, creates opportunities of individual approach to the patient, obliges the nurses to talk to and train the patients and make decisions in the sphere of nursing care. This approach is implemented by means of the patient's record which documents the patient's problem and the nursing care plan. Documenting nursing performance is a precondition of its measurement, evaluation and improvement of its effectiveness and quality (Chaneva, 2008).

Although global practice gives sound evidence of the role of nursing process as a key factor for the improvement of nursing care quality, our country still lacks a single official document to unite the overall patient information regarding nursing care and manipulations. When analyzing the factors that prevent the implementation of the nursing process into the hospitals and other medical institutions in our country, P. Marinova et al. point out a number of barriers. First among them comes the absence of a regulatory requirement of its application (Marinova & Iankova, 2010).

In the opinion of G. Chaneva, hospital nurses never have enough time to talk to the patients and their family and to fill in nursing documentation. What is feasible under the existing working conditions of the nurses is the preparation and implementation of standard care plans. They contribute to a more rapid response of the nurses in their care for the patients. Hospital nursing care quality should meet the patient's expectations and needs both in respect of technical performance of care and procedures and his relationships with the staff (Chaneva, 2008).

Despite of all existing barriers to the implementation of the nursing process, it is vital to settle in a regulatory way its applicability in practice to guarantee the improvement of nursing care quality and patient satisfaction.

Another issue related to quality components in their entirety is that in different cases the requirements and the tools used to improve quality depending on the targets can refer to different quality components. For instance:

- the regulatory basis is considered more like a structure, but when it is focused on the improvement of processes, it can be referred to them;
- the efforts of qualification improvement is related to structure quality but they are a process themselves;
- the clinical pathways, therapeutic algorithms, technical datasheets, reports, etc. are referred to the description of processes but their existence in the regulatory basis refers them to the structure; the result is whether they are performed or not, but the result quality is related to the patient satisfaction with the performance, for instance, of a clinical pathway;
- accreditation is a process when a self-assessment or an external assessment is performed, while the result is the assessment itself;
- the internal hospital regulations which establish the respective committees are a part of the structure, the activity of these committees is a process, while the indicators that characterize the committee activity are a result;
- the existence of rules to analyze complaints refers to the structure, the analysis and assessment is a process, but the relative share of complaints as a percentage of the number of all patients treated is a result;
- professionalism is directed to the improvement of structure and process, and finally to result;
- ensuring of safety, respect for patients' rights and increase of satisfaction are processes, while safe conditions and level of satisfaction are results.

The process of analysis and assessment of results achieved is critical for the follow-up decisions of process and quality improvement in relation to meeting patient expectations.

In conclusion, we can summarize:

- Health care reforms are related to provision of high-quality medical care and need structural and organizational changes adequate to the conditions of economic crisis.
- The efforts of health administration, funding organizations and consumers (patients) are directed to the implementation of new requirements to the provision of high-quality medical care.
- In the sphere of health, we find specific difficulties in defining quality because of the variety of potential "customers" of health care: first of all, patients and their family and friends, then come health professionals, insurers, the state, etc. The analysis of the different aspects of quality needs a good knowledge of the specific quality requirements of each of these groups.
- The processes of globalization and the tendency of the constant increase of health care needs in Europe and the world determine the need for implementation and application of new models of health care provision.
- A new approach is necessary for the organization of activities performed by health care specialists in modern hospitals; selection and motivation of staff, constant qualification improvement to satisfy health care requirements.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

INTERCULTURAL COMMUNICATION AND ITS ROLE IN WORLD CULTURAL PROCESSES

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Abstract

Intercultural communication is a dynamic, flexible and changing process in the context of contemporary globalization which leads to cross-cultural interactions that influence world cultural processes. The article discusses issues of interpenetration of cultures that enrich the overall fund of world culture, of cultural traditions and their role for the preservation of cultural diversity of humankind. It stresses on cultural dialogue and its importance for the future of culture. A differentiation is made of global, regional, national and ethnic cultures in the bosom of world culture and common cultural space. It focuses on the significance of art in the process if intercultural dialogue and the impact of mass culture to the global cultural fund. The article points out the importance of finance in the process of intercultural communication. It discusses culture as a sphere of business and the cultural product as a commodity of exchange that has specific artistic qualities and moral and aesthetic value that depend on market conditions.

Key words: *intercultural communication, world culture, global cultural fund, cultural traditions, intercultural dialogue, national culture, common cultural space, cultural product.*

INTRODUCTION

One of the most characteristic features of our times is the sincere desire of the nations to communicate spiritually, to get to know each other, to exchange ideas and created samples of art. Today's busy cultural exchange has a specific and indispensable importance for the preservation of the world's cultural heritage and the further positive development of human civilization. The specific cultural exchange of each country is in close relation to spiritual life inside it. The level, energy and trends in international cultural activities depend on the level of cultural exchange, activities, trends and processes. No national culture can develop in time and space without relations and contacts with the overall cultural space of all mankind and the world cultural processes of interpenetration and unity.

INTERPENETRATION OF CULTURES

Various researchers rightly claim that cultural horizons of mankind are constantly expanding. This expansion means that today people, as in no other age in their history, know and live with the cultural and artistic values of more and more ages, nations and regions. The variety of cultural and artistic values that reach the consciousness of modern man creates a fundamentally different "cultural space" and "cultural time" determined by and itself determining the convergence of ages and countries by more active cultural relations and interpenetration.

This common cultural space is built on the basis of the specific interpenetration model within the general module of "world culture". The numerous cultures existing now and through the centuries and embedded

in this concept are an objective source for the creation of a new form of unity which all progressive minds of the planet are becoming ever more aware of.

This current need of survival by throwing cultural bridges across all nations and their cultural traditions stimulates the versatile mutual knowledge and dialogue on an international cultural level. The hidden cultural potential of separate countries is built on the most important source of self-determined cultural diversity which is the national cultural and artistic tradition. It is the foundation of the purely "national" and "original" which, through worldwide cultural relations, contributes to the enrichment of the global cultural fund.

The tendency to display to the world the national cultural specificities woke up to a new life some previously closed cultural communities and encouraged them to exhibit their cultural and artistic riches through the eyes of modern humanity.

CULTURAL TRADITION AND ITS ROLE FOR THE PRESERVATION OF THE CULTURAL DIVERSITY OF MANKIND.

Along with the established global dimensions of human culture, an important issue comes to the fore: the preservation and understanding of its regional ocultural diversity. In this way, each judgment on the global dimensions of culture today includes a reflection on the relations and dynamics between the "common" and "specific" in it which, in itself, is a summary of the unity and diversity of human cultures within the cultural and historic process. By embedding the cultural traditions of individual nations into the cultural diversity of mankind, two separate aspects are revealed:

- As "distinctive original cultural heritage of nations";

- As "live works" which are directly or indirectly related to the first.

Thus, the analysis of any cultural tradition allows us to find the local or national cultural specifics and its importance of the export of cultural values into the common cultural space. In this sense, cultural tradition becomes the focus of a general philosophical reflection. It can be defined primarily as a constant mechanism of any cultural process. It can also be discussed as a key symbol of any cultural heritage or historical experience and a major channel for culture to realize its essence: to be conveyed as information and experience of the generations. /Konrad Lorenz/. Whether we stress on the "activity" or "assessment" aspect of tradition, it will always remind of both cultural and social processes and the products of those processes. These are products of spiritual or material activity and specific longer-lasting psychological attitudes to it, of life and philosophical orientation and, therefore, of everything we relate to the subjective aspects of cultures and which is enriched with the issues of international dialogue and understanding.

THE DIALOGUE OF CULTURES AS THE FUTURE OF CULTURE.

The expression "dialogue of cultures", beloved in the past and found in various documents of UNESCO, is now becoming more widespread for a number of reasons:

- Firstly, it contains a certain humanistic pathos and centuries-old human aspirations directed to a more fulfilling dialogue among people, nations and social communities

- Secondly, it approves the "field of activity" where different cultures join hands in the name of their mutual understanding and evaluation.

In the UNESCO documents the term “dialogue of cultures” is not specifically defined. First used with a view to the need of better convergence of the cultures of the east and the west,, it gradually expanded its meaning. It accompanied some Eurocentrist ideas of cultural and historic progress based on the “principle of equality” and the so topical “mutual recognition and evaluation among cultures”. It reminds of the “sacred right of each nation to have its own culture” which, however, does not revoke the mandatory respect for the “cultural pluralism of our times”. In other words, the desired dialogue of cultures generally associated with the issue of cultural identity of groups, nations and regions and encouraged by their intensive communication today is an appeal for the preservation and better understanding of the whole treasure of global cultural heritage and the variety of its traditions. It is an appeal for the understanding of a new type of contacts and interpenetration of “outer” and “inner”, “own” and “foreign”. The development of this type of relations, as well as the nation’s overall picture of itself accumulated over time, always supports the symbolic forms of human thinking and behavior. They crystallize in more durable forms as orientations not only in life but also in art and in all spheres.

The European Union bet their stakes on intercultural dialogue. In united Europe, communication and contacts among the cultures of all countries became an established tradition. The hopes are that the multicultural society will develop into an intercultural one. Intercultural dialogue can be defined as a process of open and mutually respectful exchange of views among individuals and groups of different ethnic, cultural, religious and linguistic background and heritage. These are mostly young people closely connected by the fundamental ambition to build Europe by the efforts of European nations. Intercultural dialogue is needed more than ever because of the growing impact of globalization which is both a chance to encourage diversity and creativity and a challenge to the ability of Europe to create closely knit communities. Intercultural dialogue generates new ideas and fosters better understanding in society. It allows people to find the wealth of cultural diversity and its importance for their own development and for society as a whole, and facilitates public participation /according to the definition of the Council of Europe/.

THE NOTION OF “NATIONAL’’ IN WORLD CULTURE AND THE COMMON CULTURAL SPACE.

Does the term “national” have sense and place in a time where the most progressive aspirations affirm the universally human in the establishment of a new Global Culture? Let us recall that culture within a specific synchronous section exists and, more accurately, invariably occurs on several typical levels:

Level 1 - Global Culture

Level 2 – regional cultures

Level 3 – national and ethnic cultures

Therefore, the characteristic of “national” comes to denote a specific form of regional or local manifestation of culture. Similarly, the concept of “national cultural and artistic tradition” helps us outline the culture of a specific historical and ethnic community.

National artistic traditions are not only an element but are sometimes a most vivid expression of a nation’s cultural traditions. Therefore, the analysis of a nation’s artistic tradition is the focal point of the nation’s cultural history, and not only when it displays the meeting of its original heritage with its current culture and arts. It is also the focal point when trying to find in an behind that meeting the orientations and psychological attitudes sustainable over time and related to the social and historical experience, the distinctive spirit and the national character.

In other words, the very issue of artistic tradition is now placed not in its art-critic aspect of perpetual disputes between "traditionalists and innovators", between "old" and "new" artistic media, searches and aspirations. It is painted in larger strokes as a general expression of a "local cultural specificity" and a possible starting point of cultural exchange an intercultural dialogue.

The factors that have the strongest influence on the formation of the national tradition's specifics are: each country's geographic location, their customs, beliefs, language, artistic symbols or "pictures of the world", i.e. everything we can relate our idea of artistic tradition to. Many nations have fully recognized some cultural components as their own or have developed their sense of cultural identity against the background of other cultural processes. In this sense, national identity today is based on the awareness of "our own language" and "our own culture". Frequently, the need to understand the different forms of identity starts with some trivial matters and eternal questions like "who am I and who are we", "where do we come from and why are we going this way', etc. And then, with today's answers to those questions, we look at the ethnic and cultural features of our group or nation, turn again to the historical circumstances related to our individual or group road in time, analyze the symbolic and cultural forms that express a specific social time or processes.

At this point, we live in a unique socio-historic situation. The ever more intense globalization and unification of separate cultures on the one hand, and the ever more diverse opportunities of segmentation of communities on the other, make our perceptions of ourselves and others ever more brittle and vulnerable.

According to G. Balandier's correct formula, "cultural differences in the world are manifested more strongly and become more dangerous exactly when people and groups get closely together and not when they are apart". We all should learn the difficult lessons of living wisely together. Naturally, that comes with the old or new questions – who are we and where are we going today, yesterday and tomorrow. Help comes from everything hiding behind the characteristics of "national", that defines the relative peculiarity of a specific culture, its historical way and the interaction of this culture with other cultures. This, in turn, determines its "identification" or "self-identification" which is impossible without the awareness of the "generalized subject" of cultural and historical processes in the development of world culture and communication in the common cultural space.

Is there a nation absolutely deprived of culture? This burning and much debated question was asked by the German philosopher Herder in the introduction of his famous essay "Ideas to human philosophy". The author gives the answer that every nation not only has a culture but it gives its culture as a contribution to the world's cultural treasury and history.

Where then lies the code of communication among different cultures?

In the opinion of Kagan, it lies in art. Defining art as "isomorphic to the culture it belongs to", he proposes a "culture model" with two main functions: the first one is "to be an awareness of culture" and the second one is to be a "code" in the process of communication among different cultures. At the same time, the author says that many of the ethnic features of each culture "are imprinted in art with a certain independence of its historical changes". Thus they give art and, through it, culture itself a degree of "sustainability, stability and conservatism". Just as the history of each ethnic culture is a process of interaction between centrifugal and centripetal forces, of self-assertion, self-preservation and even of formation of a culture in dramatic conflicts with other cultures or direct contacts with them, so art always expresses the unity of all these tendencies. Its history within the framework of a specific ethnic culture reflects the "inner laws" of this culture and its development, the laws of "its interactions with

other ethnic cultures", "the levels of its internationalism and its nationalism and the dynamics of these two levels".

Today, more than ever, art takes into consideration the overall national and global cultural atmosphere. And culture is the life quality of history, of that modern history which includes both the massified scientific and technical revolution and the deep crisis of all public structures. Art has never been a mirror image of society, it is a "prophet or a mourner" but in way it is a direct participant in the historic process and not only a passive result of it. For instance, a social crisis is not always a crisis in art. Sometimes, however, these two crises are more or less synchronous. The explanations are probably different but, one way or another, they have their impact on the ideas of modern individuals and social groups about the elemental power of history. It was during the latest years that we lost the proud feeling that "people consciously create history". Against this background, art remains one of the few possible direct links of cultural contacts among different countries and a direct mediator between everything created by "own" and "foreign".

Culture as a sphere or business or a pluralistic dialogue?

Global culture in the 20th century acquired a new function – a sphere of a new business: the business of cultural products. But cultural products in commodity production have some features of their own. Business laws act differently when creative and artistic work is used. Culture is related to labor quality. Labor productivity in art is not measured by quantity produced per unit of time but by the quality of the product itself. The exchange value of the product of culture as a commodity is determined by its artistic qualities and its moral and aesthetic value. It is also directly dependent on market conditions. When commodity production became an overall form of social and economic relations, spiritual production, and especially production of art, was also involved in it. An issue of social progress came to be the scale and speed of penetration of commodity production laws into spiritual life and the inclusion in this sphere of this specific and privileged human activity, often related to some special qualities of the chosen few. In the opinion of Benjamin, only within half a century – from the end of the 19th to the first three or four decades of the 20th century – the cultural situation was changed: a number of cultural activities went into the sphere of capital – newspapers, printing and publishing houses, big entertainment establishments. Capital made its most candid union with cinema. High profitability became the basis of top-modern forms of organization in the sphere of culture.

In the second half of the 20th century, all cultural activities became more directly linked to the mechanisms of growing international cultural business. With the European integration and the scientific and technical revolution, the national and trans-national forms of monopolistic capitalism, joined by the state, radically changed the conditions of the creative process and of the dissemination and perception of spiritual values. A significant part of cultural activity was transformed into a sphere of the so called "cultural industries"'.

Film and TV studios, magazines, newspapers, publishing houses, record labels, impresario agencies, copyright agencies, international festivals, show markets, etc. – all these fell neatly under the control of transnational corporations.

When profitability was high, capital was directed to culture which was considered in the past a sphere uncorrupted by material interest. Many facts show that in many countries culture is a favored area of capital investment, although the global economic crisis tells us the opposite.

"Business seeks culture not out of vanity, it is attracted not by its gloss and social prestige but by its qualities as a profitable market. Profit is the only attractive motif for monopoly capital to go into culture." Where no money is made, no matter how tempting, like in ballet, opera, art galleries, museums,

etc., businessmen prefer to maintain another type of relations and leave to the state the obligation to fund, protect and develop them.

THE 20TH CENTURY MASS CULTURE AND ITS IMPACT ON THE WORLD CULTURAL FUND.

The concept of mass culture emerged first in the USA around the 30-ies of the 20th century. In most cases mass culture means "the cultural products, policies and views formed by the leisure time industries, communications and mass production of low aesthetic qualities and artistic value of culture industries". Fortunately, mass culture includes also some higher forms of modern and classic culture. That is why its interpretation is ambiguous and can have different meanings.

In this line of thinking, the mist important question is: what is the impact of mass culture on the individual and what is the extent of its influence.

In the opinion of some eminent minds, "mass culture is intrusive, its audience is isolated from participation in the cultural processes and given the passive role of consumers and not of creators" /Edgar Morin/. At the same time, the diversity of mass culture gives us options to choose from, which creates an illusion of free search and desired result of meeting our needs.

For society mass culture is a surrogate and secondary production whose only purpose is profit and satisfaction of basic needs. Culture that uses cheap templates and smothers any independence, creativity and public activity turns the individual into a passive consumer.

The overall assessment made byof culture experts, politicians, sociologists and philosophers is negative. Mass culture is identified as pseudo-culture - a not particularly cultured layer on the surface of modern culture but separate from it.

Edgar Morin points out that mass culture is integrated in the poly-cultural reality of society, it obeys but it also controls and censors it and tries to erode and contaminate other cultures. In this sense it is not absolutely autonomous and it penetrates into the national culture from the religious and civic culture. 20th century mass culture is considered to be "cosmopolitan in its essence and global in its distribution. It poses new problems, being the first universal culture in the history of mankind" /Edgar Morin/. It causes enormous damage to national cultures that "imbibe it".

Mass culture creates a universal template which is successfully imposed on both our historic past and our look into the future. These imprints on human understanding of the world outline the desired utopian present. Along with its negative qualities, mass culture has other qualities which are related to some real values of modern and classic culture. It should not be regarded only from its commercial point of view because it can also offer significant pieces of art and higher forms of artistic creation. We should not underestimate its aesthetic aspects and the use of its communicative capacities and its power of impact. Besides that, for some categories of the population, although insufficient, it is the only means to satisfy their interests. Mass culture is a fruit of mankind and its communication links.

FINANCING OF CULTURE AS AN IMPORTANT FACTOR OF INTERCULTURAL COMMUNICATION.

Financing of culture is a major aspect of modern society's reproductive activity. The current status of culture is determined by economy and reported by many international organizations. Business in culture

has large proportions. There are many huge international companies in the sphere of culture. They either engage in cultural production, or include cultural activities in their conglomerates, or have significant performance in the spheres of science, information or cultural services of their main production, or maintain active connections with cultural institutions, either directly or through foundations established by them. The monopolies that play a major part on the global cultural market are well known.

Not only big corporations but the state itself assists in the integration of culture in the development of capital and society. The state is the main trade partner but also a big manufacturer and owner. As a major investor, it steers in this direction a certain percentage of the national income on the basis of the state budget. That enables it to influence the cultural processes in society.

We should certainly not forget the relative independence of cultural processes and the fact that they are not automatically determined by economic development. In agreement with the opinion of Losev, we can admit that the periods of bloom of spiritual culture do not directly concur with the periods of economic and technical progress. On the contrary, they are often in conflict.

The increasing role of culture in our lives is one of the main features of modern times. The issues of culture, its funding and development today are becoming a major pivot of international cultural relations and intercultural communication.

INTERDEPENDENCE OF CULTURES.

Modern world is based on complex relations between countries and nations, regions and continents of economic, political, cultural, ecological, or demographic character and relations between different social systems. The status of dependence and globality of these social interrelations nowadays is raised to the level of such intensity that no country could develop autonomously and independently of the others. An example of this interdependence is the growing community of states within the European Union, the contacts of Europe with the USA, Japan, the developing countries, the new industrial countries and the world at large. In the sphere of culture, these are the relations within the world culture, between the cultures of the different countries and groups of countries, all marked by common cultural traits and destiny - language, religion, past, neighborhood, ethnic origin, etc. – of regions, civilizations and social systems.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
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A CONCEPTUAL FRAMEWORK FOR APPLYING LEAN MANAGEMENT METHODOLOGY IN HIGHER EDUCATION INSTITUTIONS

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Abstract

Over the last two decades, the organizational environment of Higher Education Institutions (HEI) in many countries, has fundamentally changed. Student numbers have continuously increased since the 1980s and transformed Higher Education (HE) from an exclusive offering for a small elite to a mass product. Consequently, universities had to increasingly deal with operations management issues such as capacity planning and efficiency. In order to enable this expansion and as means to facilitate competition, the funding structure of HEI's has changed. Greater reliance on tuition fees and industry-funded research exposed universities to the forces of the market.

All in all, growth, commercialization and competition have transformed HEI's from publicly funded cosy elite institutions to large professional service operations with more demanding customers. Consequently, they increasingly look at private sector management practices to deal with the rising performance pressure.

During the last two decades, Lean Management has received the reputation as a reliable method for achieving performance improvements by delivering higher quality at lower costs. From its origins in manufacturing, Lean has spread first to the service sector and is now successfully adopted by an increasing number of public sector organizations. Paradoxically, the enthusiasm for Lean in HE has so far been limited.

A conceptual framework for applying Lean Management methodology in HEI's is presented in this paper.

Key words: *Higher Education, competition, performance improvement, lean management*

1. CONTEXT AND JUSTIFICATION OF THE TOPIC

Over the last two decades, the organizational environment of Higher Education Institutions (HEI) in many countries, has fundamentally changed (Deem et al. 2007; Economist 2005, 2010): First, student numbers have continuously increased since the 1980s and transformed Higher Education (HE) from an exclusive offering for a small elite to a mass product. Consequently, universities had to increasingly deal with operations management issues such as capacity planning and efficiency. Second, in order to enable this expansion and as means to facilitate competition, the funding structure of HEI's was changed. Greater reliance on tuition fees and industry-funded research exposed universities to the forces of the market. Third, the globalization of HE and research unleashed a fierce competition for international students and academic staff. Especially international postgraduate students paying overseas fees have become an important but contested source of income and most universities have set up special marketing departments. Finally, the New Public Management (NPM) reforms of the 1980s and 1990s (Pollitt &

Bouckaert 2004) increased the accountability of HEI's through quality standards, external audits and league tables and established a performance-based competition for shrinking government funds.

All in all, growth, commercialization and competition have transformed HEI's from publicly funded cosy elite institutions to large professional service operations with more demanding customers. Consequently, they increasingly look at private sector management practices to deal with the rising performance pressure – an indication for that is the growing number of HE management handbooks (see e.g. McCaffery 2004; Toma 2010). However, so far there has been no dominant approach or "silver bullet".

For instance, attempts to apply TQM in a university-context have been rather disappointing (Emiliani 2005).

During the last two decades, Lean Management has received the reputation to be a "silver bullet" for achieving dramatic performance improvements by delivering higher quality at lower costs (Womack & Jones 2003, 2005). From its origins in manufacturing, Lean has spread first to the service sector and is now successfully adopted by an increasing number of public sector organizations (Radnor et al. 2006). Paradoxically, the enthusiasm for Lean in HE has so far been limited. Most business schools seem to prefer giving advice to other organizations rather than applying their Lean competence to their own institutions (Hines & Lethbridge 2008). Nevertheless, a few pioneering universities have embarked on the Lean journey. Balzer (2010) reports several projects in the US, but his and the few other available accounts remain rather uncritical and descriptive. They are largely based on anecdotal evidence.

2. LEAN METHODOLOGY BACKGROUND: FROM LEAN PRODUCTION TO LEAN THINKING

The concept that is today known as Lean has its origins at the shop floors of Japanese car plants (Liker 2004). After the end of WW2, the Japanese economy suffered from a scarcity of (qualified) labor, capital and raw materials. Even worse, it was threatened by the dominant position of the big US producers, whose sophisticated mass production systems1 were able to realize significant economies of scale (Cusumano 1985). However, traditional mass production had its own problems, namely poor quality, high (capital) costs and inflexibility regarding product volume and variety (Monden 1983; Ohno 1988). Turning the obstacle of constrained resources into competitive advantage, Toyota developed a production system that was superior to Western mass production as it met demand instantaneously and perfectly, i.e. with less inventory and defects, and that allowed low costs and high product variety already at low volumes (Seddon 2005).

However, it is important to note, that the development of the Toyota Production System (TPS) was not a single-point intervention (Holweg 2007; Liker 2004). As early as 1948, Taiichi Ohno, who is today seen as the intellectual father of Lean, started to experiment with new production concepts in the Toyota engine machining shop, he was managing (Ohno 1988). From there, it took more than a decade to develop an integrated production system and implement it at other Toyota production sites. It was not before the late 1960s that the TPS was rolled out to Toyota's suppliers and also other Japanese producers started to adopt some of its features (Fujimoto 1999). Also, the extension of the TPS from its original focus on manufacturing processes to other areas of the company such as New Product Development (NPD) and sales did not start until the early 1980s (Womack & Jones 2003). All in all, it can be said that the TPS emerged from a process of continuous experimentation and refinement.

The Western world only started to pay attention in the late 1970s, when the superiority of the Japanese automobile producers became threatening for its American and European rivals. The first English journal article on the TPS, published in 1977 by Toyota engineers (Sugimori et al. 1977, hereafter referred to as Sugimori paper), defined its two building blocks as "reduction of cost through elimination of waste" (ibid: 554) by leveling production, slashing inventories and preventing errors to establish a continuous one-piece flow and as making "full use of the workers‟ capabilities" (ibid) by entrusting them with the running and improvement of the plant. However, despite the early availability of English literature (see also Shingo 1981; Monden 1983), it took Western business leaders more than a decade to fully embrace the underlying reasons for the widening performance gap. Holweg (2007) ascribes this largely to the highly technical focus and language and weak empirical foundations of these early accounts. But also to the reluctance of many Western companies to accept that their problems were homemade has to be noted (Womack & Jones 2003).

The critical incidence that triggered a sudden and widespread rise in awareness was the publication of the well-known book "The Machine that Changed the World" (Womack et al. 1990). It summarized the findings of a major global benchmarking study of automobile plants that was conducted by the MIT's International Motor Vehicle Program (IMVP) since 1985. The high impact of "the Machine" was not only due to the fact that it was based on hard empirical data that clearly showed significant productivity differences between the Japanese producers and their American and European rivals. Its non-technical language and style as well as its comprehensive overview the Japanese production system that for the first time included further aspects such as Supply Chain Management and NPD appealed to a large managerial audience (Holweg 2007). Originally coined by IMVP researcher John Krafcik (1988), the book also popularized the catchy term "Lean production", as a defining feature of the Japanese plants was that they used less of everything – materials, space, labor and inventory.

However, the concept of Lean production only marked the beginning of the Lean evolution. Hines et al. (2004) describe how the Western perception of Lean has gradually evolved and gained sophistication.2 Due to the temporary oblivion of the Sugimori paper and its extraordinarily concise and far-reaching definition (New 2007), the early Lean understanding was relatively narrow and confined to the adoption of a few isolated shop floor tools. The focus then continuously widened to an understanding of Lean as a holistic manufacturing system. This system thinking stressed the strategic alignment of all elements of the production system to better meet customer demand (Seddon 2005). Eventually, the strategic essence of "Lean thinking" (Womack & Jones 1996, 2003) or "Lean behavior" (Emiliani 1998) was extracted and it was argued from a contingency perspective (Donaldson 1996) that the resulting Lean core principles can be adapted to the specific circumstances of different organizations and industries. These conceptual foundations are discussed in the next section.

3. CONTIGENCIES: LEAN SERVICES

There is a long debate whether or not manufacturing and service operations can be managed based on the same concepts (Fitzsimmons & Fitzsimmons 2008). While some stress the significance of distinctive service features such as customer involvement and labor intensity (Schlesinger & Heskett 1991; Grönroos 1990), Levitt (1972) argues that this should not be an excuse for avoiding manufacturing concepts as a means of increasing the efficiency of service operations. Somewhere in between, Johnston (1994; see also Åhlström 2004) suggests that services can benefit from operations management's traditional focus on performance improvement if concepts and tools are adapted to their specific organizational context.

There is empirical evidence that Lean thinking can be applied to service companies. Case studies comprise airlines, fast food restaurants, insurances and hospitals (Bowen & Youngdahl 1998; Swank 2003; Åhlström 2004) and report cost savings of 15% to 25% and lead-time reductions (Goland et al. 1998). However, a closer look at these examples for Lean services reveals significant limitations. First, most cases refer to manufacturing-like repetitive service processes that have been described as mass services (Johnston & Clark 2008), with no evidence for Lean implementation in professional services. Second, some case studies are based on ex-post rationalization. For instance, Bowen and Youngdahl (1998) assert that Southwest Airlines and the Shouldice Hospital – both well known through Harvard Business School case studies – maintain Lean operations. While it might be true that some of their operational principles closely resemble Lean thinking, neither of the both organizations has announced that it pursues Lean implementation. Third, even where service companies deliberately embarked on the Lean journey, their application of Lean principles and methods often remains superficial and fragmented. E.g. Swank's (2003) case on application processing in an insurance company does not go beyond process standardization. Fourth and similar, in all reported cases, Lean implementation remained limited to bits and pieces of the company's value chain.

Consequently, it still seems to be early days for Lean services and there remains some theoretical groundwork to be done. There is an increasing number of conceptual works and practical guidelines that try to apply Lean thinking to a service environment (see e.g. Bicheno 2008, Seddon 2005, Seddon & O'Donovan 2010a, 2010b). According to these accounts, a context-sensitive Lean implementation needs to address a couple of special features of service operations:

First, value creation depends largely on the customer's perception of his interactions with the Service Delivery System (SDS) – the so-called “moments of truth” (Normann 2000). This has implications for the distinction between VA and NVA, as value is not only affected by objective service outcomes but also by subjective perceptions (Zeithaml & Bitner 2003). Certain activities that might not seem value adding with regards to service performance might be important for the experience of at least some customers (Åhlström 2004), e.g. face-to-face service as compared to telephone or online service.

Second, due to customer involvement and the intangible character of their offerings, many service operations face higher complexity and variation of customer demand. While manufacturers offer a predefined set of products, service providers often have to deal with unexpected requests (Seddon 2005). Bicheno (2008) proposes to systematically analyze demand patterns and introduces the distinction between “runners”, “repeaters” and “strangers” based on the frequency of a service request. Whereas “strangers” should be dealt with on an ad-hoc basis, the organization can install dedicated procedures for “runners” and “repeaters”.

Third, Lean needs to understand the different sources of variability in service processes. Usual standardization approaches might help to tackle internal process variability that is induced by the SDS or staff. However, due to the simultaneity of production and consumption all service processes are also exposed to customer-introduced variability that is difficult to control (Bicheno 2008), e.g. different aptitude levels or different expectations and inquiries. Therefore, Lean in service operations should focus on making the process resilient and capable, rather than pursuing an ideal state of perfect customer compliance (Åhlström 2004; Seddon 2005).

Fourth, employee empowerment is the key to improving process capability and resilience. Staff must be enabled to respond spontaneously and adequately while interacting with the customer (Åhlström 2004). Consequently, there should be constraints to the use of standard work in Lean services. While service blueprints and guidelines might be a great support for staff, especially when dealing with “runners” and “repeaters” (Bicheno 2008; Shostack 1984), tight mandatory standard operating procedures can lead to

a situation where the system makes it impossible for the individual employee to meet customer demand (Deming 1986), e.g. scripts and time limits that prevent call centre agents from solving a customer problem during a single call.

Finally, as services are always made-to-order because they cannot be stored, the Lean principle of pull has a different meaning. Pull in service operations means avoiding "inventories of customers" waiting for their service (Seddon 2005). It aims at replacing traditional queue management with a JIT service provision through new innovative ways of capacity management as well as visual management devices that provide the customer with clear information about the current status of the SDS (Bowen & Youngdahl 1998).

To sum up, defining value and managing variability is more difficult in service operations. Moreover, employee empowerment is critical. Regarding the Lean toolbox, most of the process-related techniques such as VSM seem to be applicable in a service environment, while other tools such as kan-ban pull or standard work are either meaningless or might even be counterproductive (Seddon 2005; Staats & Upton 2007). This might explain why service operations have so far struggled with fully adapting the Lean principles and methods to their organizational routines – most examples for Lean services closely resemble conventional process optimization.

4. RESEARCH GAP: LEAN IN HIGHER EDUCATION

HE is a very special part of the public sector with its own modus operandi (Allen & Fifield 1999). At least the academic areas of HEI's are characterized by a highly individualistic organizational culture that stresses professional autonomy (Tierney 1988). In addition, especially in older universities, the schools or colleges enjoy a considerable degree of freedom regarding their organization and often maintain structures that duplicate the university's administrative directorates and units (Dopson & McNay 1996), e.g. in areas such as student support or marketing. Moreover, decision-making in HEI's is less hierarchical than in the core administration and often based on collegial consent (Dahlgaard & Østergaard 2000). This facilitates "incrementalism" (Lindblom 1959), i.e. only small changes that largely maintain the status quo. Finally, also the long-standing tradition of many universities preserves anachronistic structures and processes. Even though there are remarkable differences between HEI's with regards to organizational culture, e.g. between "pre-1992" and "post-1992" universities (Deem et al. 2007), all this contributes to a remarkable resistance to change (Engelkemeyer 1993).

On the other hand, the increasing environmental pressures on universities, described at length in the introduction, force them to embrace large-scale change to improve their competitiveness. Just to recap, due to growing reliance on tuition fees, industry research grants and the global competition for students and academic staff, HE is much more exposed to the forces of market than other areas of the public sector. This leads to an interesting situation, in which radical change is both more necessary but also more difficult to achieve as compared to the core administration.

Lean is still a relatively new approach to HE reform. Only during the last 5-8 years universities and colleges began to experiment with Lean principles. The overwhelming majority of cases covered in the literature are from the US where most HEI's always operated in a competitive market environment and thus are more open to private sector management practices (Owlia & Aspinwall 1997). However, the quality of this literature is rather poor. Most of it falls under the category of grey literature, e.g. several online papers with rather anecdotal evidence (Moore et al. n.d.; Alp n.d.; Kusler n.d., see also Jin & Kachroo 2010). In these accounts, the authors praise the success of their own Lean projects but remain very vague with regards to the applied Lean approach and the quantitative outcomes. One conference

paper (Barroso et al. 2010) and a monograph (Balzer 2010) summarize these accounts in a rather uncritical and naïve manner without making their own investigations. The few scholarly articles on the topic remain purely theoretical (Dahlgaard & Østergaard 2000) or put every type of reform activity in HE under the Lean heading (Comm & Mathaisel 2005a, 2005b) – again an example of ex-post rationalization.

In March 2011, Radnor and Bucci (2011) published an explanatory study on Lean implementation in UK business schools and universities. Their findings are an invaluable first step to develop a better understanding of if and how Lean can be applied in a HE context and will be discussed below. However, they do neither come up with a systematic theoretical model to conceptualize Lean projects from an organizational change perspective nor do they derive recommendations for an implementation framework that is tailored to the specific HE setting – their reflections remain fairly generic. Most important, the study is based on a rather weak empirical foundation. On average, only one interview was conducted per analyzed university. Furthermore, all interviewees were either involved in the initiation of Lean at their university or acted as facilitators of Lean projects and thus have vested interests in a successful evaluation, which raises problems of interviewee bias (Kvale & Brinkmann 2008). The perspective of managers and staff working in the "leaned" processes was not included. Summarizing the sparse literature on "lean universities", and drawing mainly on Radnor and Bucci"s (2011) groundwork, it seems like the conditions for Lean implementation in HE are somehow similar to those in the wider public sector. The understanding of Lean principles and methods as reflected in the reported projects seems to be fragmented. Again the focus is on process optimization, even though the "human aspect", i.e. rising performance pressure instead of employee empowerment, seems to be less a problem. However, it is striking that most analyzed projects are concerned with support processes (e.g. payroll, procurement, maintenance) or the administrative parts of core processes (e.g. admission and student administration), with only one case reported where Lean was applied to the organization of academic courses (Emiliani 2004, 2005). Furthermore, most optimization activities seem to focus on a few isolated (parts of) processes, with little evidence for an integrated overall coordination.

5. CONCEPTUAL MODEL: A FRAMEWORK FOR UNDERSTANDING AND IMPLEMENTING LEAN MANGEMENT

There is no doubt that more empirical research is needed to gain a better understanding of the role and relevance of Lean in HE management. Moreover, it is interested in the impact of the initiatives as well as the mediating effect of critical success factors and barriers to change. To systemically analyze these aspects, this section develops a framework for conceptualizing Lean implementation that will refine and operationalize its building blocks (Eisenhardt 1989).

Motives: Why?

Decoding the motives of Lean implementation involves three aspects – understanding the (1) project drivers and (2) objectives as well as the (3) decision for Lean as optimization method.

In the private sector, the main *driver* for "going Lean" is usually the desire to improve competitiveness, often sparked by a crisis (Womack & Jones 2003). Compared to that, Lean implementation in the public sector is more driven by government efficiency programs and budget cuts (Radnor et al. 2006) – an eternal topic.

In manufacturing companies, the tangible *objectives* of Lean initiatives are normally to reduce inventory and lead times and to boast productivity and quality. In a service context, the inventory dimension is

either meaningless or less important and quality focuses on customer perception and experience (Seddon 2005). In addition, Lean initiatives in the public sector often have to put less emphasis on staff reductions.

Regarding the *decision for the optimization method*, Lean has to compete with alternative approaches such as TQM, Six Sigma or more recently Agile (Hallgren &Olhager 2009). However, based on the increasing number of successful examples, Lean is often regarded as a particularly well-proven approach. Drawing on best practice might be appropriate for manufacturing companies. However, service operations in the private and public sector need to consider the contingencies of Lean implementation and the rationale of their decisions to "go lean" is only poorly understood.

Addressing these aspects with regards to Lean in HE, leads to the following five questions, to which the analysis and attempt to formulate an organizational wide response, can be the basis for a conceptual framework of implementation:

Q1) Why do universities apply Lean principles to their work?

a. To which external and internal drivers do their initiatives respond?

b. What are the initiatives" key objectives?

c. Why did they choose Lean as an optimization method?

Approach: How and where?

If Lean thinking is first and foremost a dynamic capability, then developing a context-sensitive interpretation and translation of the generic Lean principles and methods is key to its successful implementation. This implies two central aspects: the (1) applied Lean tools and techniques and the (2) scope or application range.

Lean production provides manufacturers with a fully developed and well-attuned *set of tools* to implement the five Lean principles and the two Lean methods. While it is widely accepted that Lean services require a different toolbox, it is less clear how exactly the Lean principles and methods should be adapted to the specific service context. The reported cases for Lean implementation in (public) service operations, with their focus on VSM and Rapid Improvement Events (RIE), are hard to distinguish from conventional process optimization pepped up with some root cause analysis. In its current state, Lean services is not the revolutionary overhaul of classic service management principles that Lean production has been to manufacturing theory.

Scope or application range refers to the question to which of the organization's units or processes Lean should be applied, or more precisely where to start using Lean, as full implementation is almost always the ultimate goal. Implementation strategies can vary significantly between organizations. Two contrasting ideal types (Weber 1968) have been described to illustrate the width of the spectrum (Dennis 2006; Bicheno 2008; Radnor et al. 2006): While the emergent bottom-up approach ("Lean Light") relies on a sequence of a few separate small-scale projects and tries to gradually gain momentum, the holistic top-down approach ("System Lean") is basically a centrally initiated major change initiative starting at a strategic level by identifying the end-to-end processes of value creation in order to prioritize areas of improvement. Most organizations fall somewhere in between these both extremes and can also change their position over time, i.e. either start small and later make the link to strategy or slowly phase out central coordination once change has become self-reinforcing. However, the available case studies suggest that the more radical "System Lean" strategy is easier to implement in the private sector and that the public sector relies heavily on more or less disjointed pilot projects (Radnor et al. 2006).

Q2) How is Lean defined for the purpose of the universities' initiatives?

a. Which of the Lean principles are applied?

b. Which tools and techniques are used to implement Lean?

Q3) Where is Lean implemented in the universities?

a. Is Lean only applied to support processes or also to the core processes of teaching and research?

b. Does implementation strategy follow an emergent bottom-up or a holistic top-down pattern?

Implementation: With/ against what?

When analyzing the underlying success factors of Lean implementation, most authors point to the usual well-known elements of effective change management (Kotter 1996), namely (1) awareness that change is necessary, the (2) capacity to deal with change and a (3) supportive organizational culture.

In general, an organization's *awareness* of change requirements is a function of its exposure to and dependence on its external environment, e.g. customer needs or expectations of financial markets. Further drivers of awareness are top management involvement and professional internal communication that create a sense of urgency.

Change capacity depends mainly on the resources and capabilities organizations (can) commit to their optimization projects. This includes internal or external Lean expertise, the availability of a dedicated project management structure as well as senior and middle management commitment. Based on an understanding of Lean as dynamic learning capability, creating this change capacity is not only an enabler to Lean implementation but also an end in itself.

Most important, but also difficult to capture and address, is the existence of a *supportive organizational culture*. This comprises general aspects such as openness towards new ideas, mutual trust and staff involvement as well Lean specific issues, e.g. process-based thinking, focus on customer value or continuous improvement.

Radnor et al. (2006) summarize these enablers and barriers to Lean implementation under the concept of "organizational readiness". All in all, the specific public sector characteristics that have been identified above seem to indicate a lower level of "organizational readiness" within public administration as compared to the private sector (see also Yasin & Wafa 2002).

Q4) Which are the critical success factors and barriers to change for Lean implementation in HE? How strong are they?

a. How strong is the universities" awareness of change requirements?

b. How large is their change capacity?

c. Does the universities" specific organizational culture support or impede Lean implementation

Impact: What for?

The impacts of Lean implementation can be structured along two dimensions: Effects can be either (1) quantitative or qualitative and might occur either (2) intended or unintended.

Empirical evidence from the manufacturing sector suggests that Lean production actually delivers on its promises of revolutionary improvements. Based on several case studies, Womack and Jones (2003; see also AME 2008) state that already the initial phase of Lean implementation typically doubles labor productivity, cuts lead times and inventories by 90% and reduces errors, scrap and job-related

inventories by half. Furthermore, Lean implementation seems to facilitate cultural change towards continuous improvement. With regards to unintended effects, manufacturers implementing Lean often report substantial cash flow improvements due to lower levels of working capital tied up in inventory. Moving from manufacturing via for-profit services to public administration, the magnitude of the reported quantitative and qualitative impacts is gradually decreasing. Also the data basis gets weaker as there seems to be less systematic quantitative impact assessment. While still significant, performance improvements through Lean implementation in (public) services are less revolutionary compared to those reported for Lean production (see e.g. Radnor 2006). In addition, especially in the public sector, Lean implementation is confronted with unintended negative effects on staff satisfaction, as it is sometimes perceived as a means of rigid standardization and increased performance pressure.

Q5) What are the results of the universities" Lean initiatives?

a. What are the quantitative impacts on performance in terms of lead times, quality and cost-efficiency?

b. What are qualitative impacts on terms of cultural change?

c. Did the impacts achieve the original objectives? Which unintended outcomes occurred?

6. CONCLUSION

While it is important to note that in reality every organization is different, i.e. features a specific set of resources, capabilities and environmental pressures, it still seems possible to make some simplifying generalization with regards to the organizational context. Put simply and applying the suggested conceptual model, for-profit manufacturing operations applying Lean seem to have the clearest motive structure and can draw on a well-attuned Lean toolkit. Together with a high level of "organizational readiness", this translates into substantial quantitative and qualitative impacts. On the other end of the spectrum, performance improvements in the public sector are less revolutionary as organizations have to struggle with methodological problems and several barriers to change.

However, the above mentioned changes in the Higher Education external environment and marketplace, require senior management of HEI's to evaluate all modern performance measurement and improvement approaches, especially Lean Management, to ensure continuous improvement, efficiency and increased stakeholder satisfaction

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

INTERACTION MODELS AT INTEGRATION OF CHILDREN WITH SPECIAL EDUCATIONAL NEEDS

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Abstract

The article attempts a comparative analysis of two models for integration of children with special educational needs (SEN). From one side the subsidiary school as an organizer of the integrative processes and a donor of teachers-specialists and from the other side – the Resource Center as an organization affording a diagnostic activity, pedagogical and psychological support for children and students with SEN. The need of a parallel existing of both institutions is based.

Key words: *a special education, an integrative education*

In Bulgaria as a member of the United Europe as well as in European and world practice real changes in the specialized education pass. The conception "A School for Everyone" which expresses itself into the placing of equal chances for access to the education for all the children, including these ones with mental disabilities is established. According the Convention of the United Nations Organizations (UNO) for the children rights States Parties shall take all appropriate measures to ensure that the child is protected against all forms of discrimination". The right of the child with mental and physical disabilities to lead a full life by ensuring an effective access and getting education and rehabilitation including culture and spiritual one is granted. Nowadays the special education is directed to the complex influence on the child's personality for development of his or her mental and physical abilities and their potential displaying.

In a period of transition from a traditional to a contemporary education of children with special educational needs, the pedagogues more and more realize their social and professional responsibility at education and development of these children realization. In a historical plan, we cannot avoid the positive contribution of the special schools in which the idea about integration appears firstly. During more than 200 years the special schools have been gathering a rich experience and influence positively what can be seen in a row of aspects. Special methods for education and rehabilitation are worked out, professionals who to work with the children with special educational needs are trained and the special pedagogic is differentiated as a detached scientific field. The special schools offer a differentiated education, comfortable to the kind and stage of the disabilities which the children have.During the last few years these schools have taken the educations and cares for the children with multiple disabilities by ensuring a supporting environment, comfortable to their specific needs. A professional orientation and preparation in a part of an appropriate job is ensured for the graduating students. The school teams in the specialized school work out individual educational programs with a therapeutic purpose so that the children to be prepared for a self-dependant and independent life. Special technical devices necessary for the education, mode of life and professional activities for the students with SEN are ensured. The specialized schools proved that these children have real possibilities for education and development. The contribution of this kind of school's influences positively on the development of the theory as well

as of the practice at educating different groups of children. The specialized schools put the basis of one human activity by continuing to develop in unison with the contemporary requirements.

We cannot deny however that in parallel with the contribution, these schools keep the children with special educational needs in some kind of isolation from their coevals. In this way, the view they are not the same as the rest of the children having in mind everything for them is so special, is formed. So, the special schools even by objective reasons, turn into close communities with artificially protected environment which is different from the reality. Realizing this fact, the contemporary schools are modernized and aim finding the true way for development.

In a case they have not gotten information for special schools existing, the parents of children with SEN naturally first look at the possibilities their child to be educated in the nearest school of general education. In this way, nearly a century after the first special schools appearing the idea for integration which is supported even by the criticasters is born. The integrative education has been popularized very hard, because of the imposed tendency of protectionism, patronizing and social protection. The development of the integrative education offers a new alternative called normalization. This conception supports the right of the children with SEN to live with their families in conditions of their natural social environment.

The integration is considered as an adequate participation of people in the political, social and culture life of the society. The successful integration is measured with the positive change in life quality of the children with SEN, in their accepting and equal in rights participation in the social life. The unsuccessful integration however leads to a number of negative consequences – decreasing of self-estimation, deprivation of the personality and a trend towards life in closed communities.

The existence of many definitions of the integrated education which put stress on its different components – a time spent in a normal class, interaction with children from the school of general education and so on. V. Radulov defines it as “a contemporary education of children with special pedagogical needs and healthy children in the nearest school by qualified support by a special tutor.” According to Ofenberg, in order to integrative education be available, the child should spend at least 50% of the school time in a traditional classroom.

At the present moment a big variety of integrative models for educating exists. Many authors use also the term “infusion in the common stream” what is interpreted as a mutual education and interaction between children with SEN and their coevals in the general class. The specialists use the term “including education” which puts the stress on the children with SEN accepting in the school of general education, without any limits.

The integrative education is not only some educational conception but a new educational policy which gives the possibility for a choice between the special school and this one of general education too. That leads to a new school organization, a new social environment and a new kind of specialists and administration. The school with general education takes the biggest part of the responsibility for the children with SEN education at the realization of the integrative education. To realize the idea “a school for everybody”, the children with SEN must be included actively in the activity of the usual class. At this approach, we should help the child to adapt to the class not the opposite. That is included in the resource teacher’s who works in cooperation with the speech therapist, psychologist and the teacher from the school for general education obligations.

The fact that not every child with SEN is appropriate for integration should be kept in mind. The child’s age in which the early development and stimulating for acquaintance the world around in their sensitive age easies the process of integration and it is of a great importance. The stage of disability in which the

children with a mild state of disabilities can be integrated in the environment of the general class should be kept in mind. The children with an average and hard state of intellectual impairment are successfully taught in the a contemporary subsidiary school where all the pedagogues are with the needed specialization at which the speech therapist and the psychologist help the children additionally when there is such a need. The school team works out an individual educational program for each child with a moderate and hard state of backwardness or with multiple disabilities as the child's achievements in different fields are measured with a five-degree scale. An individual work and a differentiate approach is realized as specific methods for work with children with autism are applied

The term "education" enlarged its sphere by accenting not so much the academic knowledge but the social and useful skills necessary for a daily life. At the preparation for an integrated education it is important to estimate the child's possibilities for communication because the interaction with the general teacher and its classmates depend on this. The resource teacher defines the way of communication in accordance with the specific of the disability. It is necessary to form a real self-estimation and acceptance of the disability to be formed. If

the child is educated in accordance with the school program for the general education, he or she should reach the standards of for the certain class and to have the necessary level of academic knowledge and skills. The diagnosis of the child also influences when the decision for integration or for the education in a special school should be made. The children who will be integrated should have a real idea about the way in which the students in a general class study at the preparation for the integration. When integration is about to happen the creative skills of the child in a certain field – music, sports, art in which the child's talents have a positive influence for his or her acceptance in an general class are had in mind too.

It is important to have in mind the starting-off point from which the child with SEN goes to the general school: from the specialized school, from his or her home, from the social institution or from the hospital. V. Radulov (1995) describes some models for integration as the contemporary models offer a most flexible approach at integrative education applying. It is necessary to have in mind that the positive qualities of only one model should not be pointed and to state that it is the best one. In the frames of a county a few models corresponding to the competitive conditions and pedagogical needs of the children can be applied. Some models are more effective for children with sensor disabilities integrations but others – for children with intellectual impairment as some of the models are accepted by the Resource Center and others are applied by the subsidiary schools with a success. It is necessary that the specialized pedagogues along with the parents and the child with SEN to make the most appropriate choice having in mind the particularities, possibilities and the needs of the child.

Some main factors influencing the predominating of one or some models exist in one county as the traditions in the field of the special education which hard allow a total integration in the general school from the first grade. The educational legislation is also a main factor that determines the motion of the integrative education. The particularities and the structure of the educational system and the adequate of the programs also influence the implementation of the transition from a special school to such with such of a general education. The material base and the presence of the prepared specialists are of a main importance. The idea of the integrated education should be accepted by the teachers and the management of the general school in order to apply successfully the different models of integration. The social support of the idea is of a great importance because of the fact that the parents should be informed through the media and to realize their right of choice treating the education with SEN.

One of the current tendencies in the special pedagogic is the early education at the child's home from the earliest infancy till the age of 5-6 in order to affect a comprehensive development of the child's

personality and possibly the child to be integrated into a regular kindergarten. In his or her integration the child adjusts to the new environment, by gradually increasing the time of staying in the setting and leads to full-time residence. All this applies also to the integration of the child in an elementary school, as here the emphasis is on the participation in the group's work, on the strategy for compensation, social interaction between children and partnership with parents.

The early influence and the child's integration in the preschool age is positive with this that the child goes to a regular school with a certain level of knowledge and skills what easies the integration. It is an easy to apply model because the education at that age has no such a formal character and the interaction between the children is more natural and unaffected. The child is integrated in the regular educational institution nearby the home as the resource teacher is on the pay-roll either to the resource center or to the specialized school. At that case the specialized pedagogue fulfills the functions of a consultant for the parents too.

The practice of the children with SEN at our country shows that when there is a good organization and understanding by the management of the kindergarten or the school and the teachers, the integration can be successful especially for children who are borderline case, with a mild mental retardation or sensory disabilities. Sometimes the parents or the teacher in the general school favor the child more than it is necessary and the resource teacher must explain that is not favorable for the child's development. The integrated children can participate sufficiently in a number of mutual activities with the healthy children – to sing, to draw, to partake in festivities. In this way both the children and the parents are convinced that the integrated child is the same as the rest of the children.

The total integration is a model that foresees education in the general school from first grade. Theoretically this is the ideal model of integrations but it is hard and risky. At that case however it is good for the specialized school to play a subsidiary role especially for the main subject in which it is allowed to the child to visit the lessons at the subsidiary school. This model supposes a very good preparation of the resource teacher who in the first year is necessary to help the child at a large degree. At that model the interaction with the parents who can keep the resource teacher's job at home is of a great importance too.

The model which is the most often offered for the initiative of the special school is integration at a certain school stage after completing the elementary or secondary course of education as the child keeps visiting the general class. At that case the preparation for the integration is better and the child has definitely a certain level of skills for independent life. When applying this model it is necessary to have a good interaction between the specialized school and this one of the general education.

Another model is the Canadian one with which the children who will be integrated are sent to the nearest to the special school for a certain trial period. During this period the student is observed by the resource teacher of the specialized school as this period can last from one month to one scholastic year. If the child adapts successfully they take second step – to quit the specialized school and to visit the general one. This model supposes a good interaction between the resource teachers of the specialized school and the resource center that takes the responsibility for education in the general school.

The model of the outer class consists in this that the general class is visited by the living in the neighborhood children with SEN who are a few in numbers. These outer classes facilitate the interaction between the both groups of children without their quitting of the specialized school. If the outer classes teach general teachers they get the possibility to get acknowledged with specifics of teaching the children with SEN. When specialized pedagogues teach, they can co operate for extending the social contacts between the students. It is necessary the parents of the healthy children to be positively

motivated to the specialized school as being explained that in the conditions of a small group their children will have the possibility to get more attention by the teacher and from here – a more qualified education.

The other model is this one of the combined integration. It spreads the English experience in the field of the integrated education in which the specialized school realizes a direct interaction with the general one. Two specific models are developed – a Liverpool one and a Sheffield one. According to the Liverpool model the integrated students spend only the school hours and their self preparation is realized in the specialized school. The resource teacher is in the role of an advisor who renders assistance and is responsible for the visits at the general school. This model does not provide for intensive contacts with the general school because the specialized schools takes completely the responsibility for the education of the integrated students.

The Sheffield model represents a step ahead as the general school opens a resource room for non-resident teachers who realize a close cooperation between the specialized school and the general one and help the integrated students.

The common thing between these two models is the use of a specialized school as a base for integration. The difference is in the social approach as using the second model a closer relationship between the specialized and the general teacher is realized, the contacts of the children with SEN and their coevals is realized and the management of the general school is engaged with it.

The reverse integrative education is another famous model which is a exchange of groups of children between the specialized and the general school. The results of the made experiments show that is beneficial for the both groups of children. The small group of integrated students gets to know the schooling process in a general class, they are motivated to present themselves well, their personal self estimation and belief in their own possibilities increase and social contacts with their coevals are created. The healthy children also have benefits as in the conditions of the school class with a decreased number in the specialized school because of the more often made control and attention of the children, they increase their achievements. In this way they extend their knowledge about the way in which the children with SEN are thought, they get to know new for them technical means, they are taught to be tolerant and give a mutual aid and they are convinced these children are the same as them. In order to apply this model successfully it is necessary to realize a good communication between the specialized school and this one with a general education and the parents of the healthy children to agree. The reverse integrative education offers one more possibility for an adequate interaction between the specialized and the general schools.

The model of a partly integration provides for the child with SEN to get the opportunity to visit the general school one day per week or two to three classes in the frames of one week. The practice in many countries and the experiments which we have made show that this model is the most beneficial one for the children with emotional derangement especially with the Down's syndrome. Organizing an effective visit of the general school classes is often impeded but the classes in PE, Music and Art turn out to be beneficial and very interesting. This model is appropriate for all the groups of children with SEN and represents an experience of overcoming of the social isolation.

Another model that has its adherences is special classes opening in the school of general education. At that model an impression that the integrated children with SEN visit the general school is created but this is only formal. In fact, the specialized class stays closed for the rest of the children and puts the integrated students in isolation again. During out-of-school time it is a little probable that social contacts will be realized because the children do not have a mutual education. The healthy children have

difficulties to understand the social aims because the social class was formed. What impresses is the children with disabilities are different because they are far removed. In this way the complexes of the children with SEN get deeper and this model turns out to be inappropriate. A similar integration is defined as local. The next levels are social integration at which there are common activities between the integrated and the healthy children and functional which represents a real mutual education.

One of the latest models of the integrated education is this one of the integrated classes. The researches show that this method is especially appropriate for children with mental intellectual impairment. The essence of the model consists in this that a small group of four children with SEN who come along with the specialized children joins the general class. The small group of integrated students has an education according to the specialized programs while the general teacher, at the same time, is engaged with the rest of the children's education. This method requires a partnership between the specialized and the general teachers. Both of them mutually and at every lesson plan activities which to be included into both groups of children in the integrated class. Except this, at certain moments of the lesson they can take turns. The rich experience of the specialized teacher can turn out to be beneficial at the education of the big group as meanwhile the general teacher can give a valuable help in mastering of some skills of the little group of the integrated children. Realization of this model supposes a very good professional qualification of the specialized teacher as well as of the general one.

The model of the united classes also provides for the integration of a group of children with SEN in a general class but without defining the number of the group. The integrated group keeps being a part of the specialized school and it is an integral part of the general class as it is in the model mentioned above. At that model each group is taught by the certain school plan and programs by common activities planned by both the resource teacher and the general one.

Another model of integration is this one of the small classes which provides for formation of a specialized class the number of which is from 6 to 11 children. This method is appropriate for integration of children with inhibitions in mental development and can be applied by the resource centre. The integration of the small special class into the general one lasts form 4 till 6 years giving the children the chance to flow into the steam of the children with normal development as that is realized with an individual rate for each of the children. This model is not the best form of integration because separates the children but it keeps the possibility for social contacts.

The model one to one is possible for applying for the children with multiple deep disabilities requiring an intensive individual teaching. Usually the blind and deaf children are taught by this system. The practice shows that the education can be realized in a general class as in certain cases the child can be cared for by a parent. This model of integration is most applicable and the most effective teaching is realized with it but it is expensive. Although the awkward communication the probability for creating social contacts in the general class is much higher than in the limited environment of the specialized school.

Before the Resource centers to be created in our country in 2006, the Third Subsidiary School Sofia, in the frames of two years, was one of the first that assumed the role of a resource service providing specialists and didactic materials for work with the integrated children in the schools of general education. That was the period in which the first steps to the integration of children intellectual impairment were made. For facilitating of this process at the beginning meeting between the teams of the specialized and general schools were organized at which the aims and the approaches for realizing the integrative process were debated. Groups of 6-8 children with SEN which were assisted by a resource teacher on the stat to the subsidiary school were formatted. At the initial period often the procedure on an initial estimate of the children with SEN was carried out in the specialized school where a constant

acting school team exists after which the child is represented to the regional team. The most important role at the integrated education played the resource teachers as they had a very good professional preparation for a work with mentally disabled children. The subsidiary school played the role of a resource center at its region coordinating the word of the resource rooms in the general school. The resource teachers visited the subsidiary school twice a week for team meetings at which the shared the results of their activity and discussed the appropriate strategies for work with certain children. Along with the team of the subsidiary school the resource teacher worked out an individual program for education and development of each of the children. In the professional records of the resource teachers were marked off three main functions: to provide for the integrated children with mental isolation, as well as to provide for the general teacher at his or her work with these children and to work with the parents. In the duties of the resource teacher the preparation of the child with SEN for integration, searching for children with SEN in the frame of the general school or adapting of the children with a mild mental retardation who to be integrated in the mainstream. From another side, the resource teacher explained to the children from the general class the specific of studying and perception of the integrated child and that he or she does not distinguish from the rest of them. The teacher expounded his or her role to his colleagues from the general school as well as to the children. Such teachers provided the integrated children with didactic materials and student books. The child with SEN was warned for the typical difficulties in different general subjects. The guarantee for the efficiency of the activity of the resource teachers at integrating the children with SEN was the good partnership with the management and their colleagues from the general schools. The resource teachers worked on formation of useful and social skills as when it was necessary the children with SEN visited the subsidiary school to get a support in subjects which impeded them or for consultation with a speech therapist or a psychologist. The resource teacher participated in the professional orientation of the student along with his or her parents and the management of the specialized school. When it was necessary, the resource teacher expanded the field of attendance of the child. When there was need of medical examinations or a therapy they were organized along with the parents. The resource teachers contributed for the expanding of the social support of the integrated education by carrying out cooperation with different institutions and explained the philosophy of the integrative education. The main function of the resource teachers working on the pay-roll to the subsidiary school was the interaction with the general teachers. The resource teacher consulted the general one about the specifics of the educating the students which were a result of the disability. The general teacher had to be informed about the way in which the child gets information about the communication, which activities he or she could take part in and which the main roads for compensation of the disability were. For example, at the children with mental retardation, the resource teacher offered advices about how to use more visual aids in order to help the information reach the children through all their preserved senses. The resource and the general teacher planned mutual activities at the lesson as the resource teacher attended the classroom at certain moments to help directly the integrated student. The specialized pedagogue helped to the general one on checking the knowledge of the integrated child. He or she helped the form teacher to include the child into the class life. The resource teacher organized including of his or her colleagues from the general school in seminars on special pedagogic where they got the specialized training and were recommended a specialized literature. The other important function of the resource teacher is the helping on the parents with advices how to be useful to the child at the lessons doing and homework, what specialized material can be provided for a better understanding of the tutorial. The parents were encouraged to form useful skills for a self-dependant and independent life of the child as well as to stimulate social contacts creation. The two-year-experience of the Third Subsidiary School Eduard Segen – Sofia, as a resource service proved that the specialized school can successfully fulfill this function.

The job of the resource teacher requires confidence of the student and because of this reason the child should feel the goodwill and the sincere desire to give a support. At carrying out of his or her activity, the resource teacher can keep a work notebook for each student in which to match the reached results of the individual work. Except this he or she should keep obligatory a personal file of the student where to keep all his or her documents – medical and pedagogical ones. The documentation should be checked by the institution to which the special pedagogue is appointed in order to follow the dynamics of the children with SEN development and the efficiency of the school activity. The work of the resource teacher is reported at the end of each school term to the pedagogical council. If some of the children there is no progress in the integrative teaching first of all the tutorials should be analyzed in order to find the reasons. For a better tracing of the resource teacher's activity efficiency surveys with the teachers of the general school and the children's parents can be carried out.

The practice shows the best model of integrative education does not exist and the selection of the most appropriate one should be done in accordance with the needs and the opportunities of the certain children with SEN. One of the most important conditions for a successful realization of the integrated education is the presence of a good cooperation between all the participants in the process: the resource and the general teacher, between the teachers and the students, between the teachers and the parents as well as between the children with SEN and the healthy children, between the school and the society. The success of the integrative education depends in a large degree on the general teacher's adjustment who is able to contribute for the social acceptance of this kind of education.

The integrative education is actually feasible from the resource centers as well as from the specialized school. The subsidiary school has been developed and it is going to undergo changes as it will be able to take up the functions of a resource service for the integrative education of the children with intellectual impairment, summer school organizing, consultation and training of parents, psychological help, speech therapist help and qualified seminars for teachers. The specialized school affords a practical basis for students' preparation in special pedagogic as well as other activities that can be organized during the students' holidays. The necessity of a parallel existing of the both institutions – Resource centre and a specialized school is grounded by the necessity of the parents and the children with SEN to afford an opportunity for choosing the most appropriate form of education and an integration model.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

INNOVATIVE END EDUCATIONAL TECHNALOGIES APPLIED IN HIGH EDUCATION AS OBJECTIVE REALITY

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The changing socio-economic situation in modern Kazakhstan caused the necessity of modernization in the sphere of higher education, rethinking of theoretical approaches and accumulated practice of higher education. Accessibility, quality and effectiveness are the priorities of education envisaged by the conception of modernization of high and secondary education.

Realization of these priority requirements is assisted by the pedagogical innovations. Innovations in the educational activity means new knowledge, approaches, methods, technologies used to maintain the results in the form of educational services, notable for its social and market demand. Exploring the innovative experience shows that most innovations are devoted to the development of new learning technologies.

Educational technology is a system method for projecting, realization, evaluation, correction and further reproduction of the educational and training process. The term *innove* (lat.) means entry of a new subject into some environment. It penetrates and gives rise to a number of changes in that environment (put into circulation in 17 cent.). Under the term *innovation* one should understand the use of the results of scientific and technical activity in one or different sphere of the society, directed for the improvement of the activity process and its results.

Therefore, the innovative methods used in high education are pedagogical methods, based on the utilization of the contemporary scientific achievements and information technologies. These methods are used to elevate the quality of the students training process, to develop their creativity and to help them to make up their decision independently.

Under the conditions of the dynamic changes of the world, global interdependence and competition, the necessity of widely used technologies, their constant development and complication, the informatization of the study process has a fundamental meaning.

The intensive development of the sphere of high education on the basis of a use of information and telecommunication technologies becomes the most important priority of the nation.

With the help of informatization it is proposed to ensure the vital advancement in the direction of the realization of the concept of the outstrip education (incl. basic and introduction of innovative methods), developing education (incl. humanistic orientation, adaptable training, use of creative technologies) and open education with use of distance education and telecommunication technologies.

As a result there would be created an effective system of education, providing the formation of a competent individual, competitive on the labor market, being able to resolve professional tasks independently and realizing personal and social importance.

At the present stage of improvement of modern information technologies it is possible to replenish knowledge only through the development of new modern technology. Their development involves both a search for new teaching methods, establish a technical data base of educational activities, and the implementation of innovative technologies for the educational process.

Currently, a methodology of the new information technologies is under development, their facilities are created and improved, and a practice of its implementation in high education is elaborated.

The main distinctive characteristic of the new information technologies is that they provide unlimited possibilities for independent and collaborative creativity of teachers and students.

The new information technologies, affiliated to the traditional information and explanation approach to education is less effective. Under the conditions of the new information technologies the role of a teacher's activity during the education process is changed. He is a participant in the productive activity of his students.

The use of the new information technologies in the higher education helps students to acquire an effective training.

The rapid spread of the new information technologies (NIT) in different spheres of man's activity, including the system of education, has lead to the fact that the level of the effective functioning of the institutions is determined by the level of computerization and competitiveness of the teaching staff in the field of NIT.

Analyzing the experience of the NIT introduction to the higher education institutions we may outline the following directions of its appliance:

- preparation of the teaching materials, first of all the students' electronic text books for independent work;
- use of the computer equipment as means of education and control of the training process (computer classes, system of interactive video, data base for different subjects etc.).

In the connection with the NIT development in the system of higher education, students are offered to study training materials executed in the form of electronic (computer) text books. But in this case the main problem is the simplicity or erroneous idea of the authors of how the electronic text book should be done. They simply duplicate the information taken from the paper sources, without using the great possibilities of a computer. In some cases one can find text books with CD pack: at first, a student studies material from printed books and then executes practical exercises on computer under controlled procedure. Such methodological complex does not make the full usage of computer; therefore it should be called a computerized training book.

An electronic training book presents a training program system providing an uninterrupted and complete didactic circle: theoretical material, training and research activity, control of the knowledge level, interactive reverse connection.

There are two widely used technologies of electronic text books:

1) technology, based on the conception of typical screen view (registration, information board, question board and exercise board) [2]; 2) technology, based on the use of a theory of model method (laws, theories) [3].

The technology, based on the conception of typical screen view, does not provide the complete comprehension of the training material by the students because of its fragmental presentation. That shortage is eliminated by a theory model method.

Alongside with the electronic text books, reproducing the complete didactic circle, program systems are used, including some fragments of didactic circle: encyclopedic, informational and test electronic books.

Encyclopedic electronic books contain a large volume of information according to definite topics, presented in a form of articles, arranged to a thematic principle.

Informational and test electronic books do not contain a wide information, but they are more purposeful. Informational and test electronic books are normally used in a real training process as an additional reference books.

Test electronic books contain a certain part of questions (tasks), testing model and system of analysis and evaluation of answers,

The improvement of electronic training books should be based on the use of such modern technologies as multimedia (multivariate environment), "virtual reality", "micro world" environment, which can be successfully used by a student not only during the independent work with electronic text book, but also in a course of a class work.

Multimedia is a technology, providing a static image, video image, animation, text and audio. Information received with a digital photo camera, scanner, video camera, microphone and other external sources after being processed and, possibly accompanied by a text, animation and special effects is registered in a multimedia file.

The use of multimedia equipment in a training process provides effective comprehension of a study material due to an optimal interaction of visual and audio effects.

In a combination with a hypertext multimedia forms systems of hypermedia (super environment), based on a method of discrete presentation of information in junctions, connected by means of links. [1]

In spite of its complicated elaboration and realization in training process, high value of a program guarantee, the new computer technology gains a wide spread – "virtual reality". It creates an illusion of direct presence. The use of that technology in a training process helps to model different types of activity for a student.

The "micro world" environment allows to organize a research activity for the students on the basis a computer modeling. The environment may include necessary information for a research: electronic tables, audio accompaniment; systems to manage the work of real stands, equipments, units with the help of special indicators, connected with a computer, which elaborates received data and presents them in a form of tables, diagrams and graphics. The "micro world" environment creates the optimum conditions for the realization of a project methodology in learning process.

The project methodology, put into circulation in 1920, is widely used in nowadays. It aims to develop comprehensive skills and habits of students, their knowledge critical thinking. [4]

The project methodology always assumes that students make independent decision (individually or in groups) of any problem, provided the use of research methods, integration of knowledge and skills from different spheres of science, techniques and technologies with the aim to get concrete result of theoretical and practical importance.

The main stage of work is organization, work on project, result processing and presentation – visual demonstration of the "information" (project), as a rule, with the help of audio-visual means.

The basis of the most projects contain research methods of education, where students make up their decision using classical scientific research with all research methods distinctive for scientists' activity.

The project methodology combines with a training method. Projects may be accompanied with the use of electronic posts and in a form of teleconference. In the course of work under the projects students

may need a rapid search of ideas and decisions. In that case the "brainstorming" method may be used. The "brainstorming" method is used in groups to generate ideas. Its main goal is to help students to free their consciousness and subconscious, to stimulate imagination in order to receive original and non-standard ideas.

It is difficult to evaluate the importance of NIT in the training process: it includes a large didactic potential. Of course, it is not an alternative to the traditional training systems, as even the most perfect computer cannot replace the vital interaction between teacher and student.

On the other hand, a student, who acquires the information and the methods for its collection, elaboration, keeping and transmission, during the training process becomes an active person of the pedagogical process, a researcher who is capable to state and resolve independently a wide range of tasks.

The introduction of different information technologies into the training process should be scientifically grounded. All computer training program an electronic text books should undergone an expertise: upon the evaluation of experts a certain certificate is issued – document, confirming its quality with recommendation for introduction of the program.

Unfortunately, until now there isn't any, generally accepted, evaluation system of the pedagogical purpose to use any program product. Nevertheless, the following system of criteria is presented as optimal: accordance to the didactic principles (scientific approach, visual aids, availability, activity, systematic, consistency, firmness of the acquired knowledge, unity of educational, study and developing functions of training); provision of the interactive training; correspondence between the structure of the training information and the logics of its presentation to the methodological requirements to a training subject; correlation of different levels of cognitive process; verbal (texts, formulas), visual (graphics, video, animation), sensual (perception of the information about the object through the organs of senses); provision of the productivity, safety and comfort for the users while working with the program; preservation of system efficiency, during the incorrect action of user; comfort of user interface; non interrupted work of a system; openness of a system (can be modified).

At present time the higher educational establishments of Kazakhstan introduce step-by-step the system of electronic training "e-learning", which means technical equipment by multimedia means of training, wide access to Interned and use of electronic resource of educational material. There is a demand for modern, interactive and multimedia text books of new generation and format based on the state language.

Therefore, the formation of the modern innovative electronic training book is a compound, responsible process, requiring professional competitiveness in different spheres. To create electronic text books of good quality it is expedient to form a creative group of specialists of different types: a teacher (elaborator of the whole structure), leading teacher (specialized in didactics), psychologist (specialized in psychology), programmer, engineer, specialists in the field of design and ergonomics.

Only complex approach in creation of electronic text books allows achieving real higher results in training of students, and on the other hand – it will assist to develop new IT in the higher educational establishments and in system of education as whole.

Innovative technologies allows students to use effectively all methodological and learning literature and materials; to acquire professional knowledge; to develop problem-research thinking; to form professional opinion; to activate scientific and research work; to expand the possibility of self-control of the acquired knowledge, for teachers - to renovate efficiently the methodological and training

literature; to introduce module technology of education; to expand the possibility of knowledge control of students.

The training schedule of the "innovative institution" should include such forms as project elaboration, training, module training, period of training on the production site, in scientific and research organization. Technological equipment of education process should correspond to the level, achieved in the leading foreign universities.

"Innovative institution" should have innovational center, which practically realizes the principle to produce all that can be sold. In this case the leader of the project will be a manager – business-leader. Innovative center follows the requirements of the market and demand, competitiveness of the product.

On the basis of the stated above let us indicate the main direction for the NIT development in training process of Kazakh National Agrarian University:

1. Implementation of the innovation technologies of education involving all kinds of learning activities (lectures, lab works, and seminars) and subjects with the use of multimedia teaching system, demonstrated and guided by interactive appliances.

2. Implementation of the elements of innovative technologies, used in learning separate parts of subjects. It is course of lectures with the use of multimedia systems or some themes of lab works or practical (seminars) lessons. For example, the use of: "teacher-student" dialog form at lecture lessons; "round table" seminars at practical lessons of humanitarian subjects, press-conferences, disputes, presentations; practical lessons (math, physics, chemistry etc.) ; "group projects", practical training; role games; problem solving; computer technologies of education (AreGIS), computer testing, model education.

3. Use network technologies and resources of international computer nets, which allow to solve the problem on new information level (distance technology of education).

4. Work with interactive appliances – boards, absolutely helpful in learning process: virtual lab works with the use of computer; all results are elaborated with computer systems MathCAD, ChemCAD.

5. Development of innovations: improvement of training and methodological disciplines, electronic textbooks, methods of teaching: development of tasks, work books, video-lectures, virtual labs, adapted to Internet technologies.

6. Organized promotion courses, training for teachers, exchange of experience, seminars, round-tables on "Innovative technologies of education".

As it was shown by the research, all tested technologies envisage applied knowledge not only in the frames of basic specialization, but also other education disciplines presented in high education. It is important that every teaching subject: has educational meaning for the students, develop their communicative and personal quality, assist the formation of scientific and cultural outlook.

Innovation technologies in high education allow improving the quality of the existing technologies for training specialists and providing the elevation of education quality, and therefore competitiveness of high education in the market of educational services.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

APPLICATION OF PROFESSIONALLY-ORIENTED TECHNOLOGY TO THE TEACHING OF PHYSICS IN POLYLINGUAL EDUCATION

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Abstract

In this work, the problems of developing effective educational technologies at the process of studying physics at higher educational institution have been considered. The application of professionally-oriented technologies to the learning process of students on the Physics-Technical faculty of the Karaganda State University named after academician E.A.Buketov on the specialty 5B011000 - Physics in groups with polylingual education is analyzed. The necessity of teaching students to fluency skills with computer and software packages on the example of the MathCAD program is justified. As an example, the research problem of the possibility of using MathCAD program for modelling of electrostatic fields and charged particles beams in these fields is considered. The solutions domains of the equations, which describe the trajectories of charged particles in the electrostatic hyperbolic field, are defined by applying MathCAD. It is shown, that the use of MathCAD in the study of subjects of specialization, in particular, the course «Computing Methods in Physics» allows students to learn not only the different methods of computer modelling, but also to understand and consolidate knowledge of professional physical and technical terms in English.

Key words: *professionally-oriented technologies in education, polylingual education, MathCAD program, computer modeling, electrostatic hyperbolic field.*

1. INTRODUCTION

It is known that English is the source of intellectual, cultural and professional development of personality and factor of social and economic, scientific and technological and cultural progress of society. Although to the problem of teaching English in higher school and, in particular, to oriented foreign language communication has always given special attention. At the moment in terms of expanding international cooperation the demand for specialists, who practically speak English perfectly is increasing. All of this raises the need qualitatively learning of specialists-physics, which professionally mastering several languages and by that getting a real chance to take more prestigious position in society, both in social and professional relations.

The President of the Republic of Kazakhstan N.A.Nazarbayev posed the strip of board in front of national education. It must be capable of competitive, high quality, so that graduates of schools of Kazakhstan could easily continue their studies in foreign universities. Therefore, the most important strategic task of education is safety the best kazakh educational traditions and the procuring of graduates of schools with international quality, develop their linguistic consciousness, based on - to master the state, native and foreign languages [Missave ..., 2007]. In this context, understanding the role of

languages in the today world with special urgency poses the question of the effectiveness of language training and raising the level of language proficiency of students.

As part of implementing the provisions of the Education Low in the universities of our country began training of pedagogical stuff for a work in the conditions of polylingual education experiment. One of the two basic universities, which were approved for realization of polylingual education in an experimental mode, is Karaganda State University named after academician E.A.Buketov, professors of university should ensure qualitative teaching special subjects in English. As the practice of teaching students in groups with polylingual learning in the physics-technical faculty on specialty 5B011000 – Physics (educational), shows one of the most important tasks for professors is to find effective methods of teaching subjects in English. Nowadays, the most productive and perspective educational technologies are those that allow to organize the learning process, taking into account the direction of professional training, as well as focusing on the personality of the student, his interests and abilities [Dolmatovskaya YuD … , 2000].

2. PROFESSIONALLY-ORIENTED TECHNOLOGIES

At the present stage educational technologies aimed at consistent modeling in the forms of learning activities of students of the integral content and conditions of objective and social context of activities of a specialist are became actual.

The initial data for designing professional-oriented technologies are educational and professional standards with consider the objectives and content of education. The positive potential and creativity of personality that can be promoted only in a comfortable learning should be taken into account by the teacher.

The most important characteristics of professional-oriented technologies of new generation are:

- effectiveness (high result is achieved by each student);

- economy (a large amount of material without big expenses and efforts from both teacher and student are absorbed per time unit);

- ergonomics (learning occurs in atmosphere of cooperation, positive emotional climate in the absence of an overload, and fatigue);

- creation of a high motivation to study the subject, which allows to identify and develop the best personal qualities of the student, to reveal spare capacity of students.

The professionally-oriented technology of training of a new generation focused on the acquisition of professional and communicative competence by students, the ability of students to engage in a proactive and creative in dealing topics studied subject. During the study of special subjects in English method of professional technique-based learning involves a complex kind of training activities. It combines different types of foreign language speech communication in order to address certain structural and practical, information, research, and other troubled and creative tasks. Thus, on the one hand, the English language serves as a means of educational, informational, constructive and creative activity of the student, and the other - in the course of the project is the development of the language being studied in various aspects of its immediate use.

The technological strategy of professional training of students should consider the installation of students toward self-actualization and self-realization, providing students with wide opportunities for

self-depth professional specialization on the basis of personal individual plans and educational programs. The latest technical tools is gradually turning into a mandatory element of professionally-oriented education in higher education. The information technology based on personal computers is got recognition.

Methodology of professional - oriented training of university students includes: accounting interdisciplinary connections, the orientation of the individual students abilities, the close relationship of theory and practice, monitoring and correction of student's auditorium and autonomous work, the ability to modify, vary the ratio of volume and sequence of assignments, reliance on the achievement of didactics, reflecting the interrelated activities of the teacher and student [Musnickaya YeV … , 2000].

The greatest efficiency comes from such contemporary professionally-oriented learning technology specialist disciplines, such as:

- Communicative with the ideas of contextual learning technologies;

- Modular, which are highly concentrated and high-quality selection of material;

- Design technology that develop creative thinking;

- And information suggesting the introduction of computers into the learning process.

3. THE COMPUTERIZATION OF EDUCATIONAL PROCESS AT POLYLINGUAL TRAINING IN

The successful implementation of polylingual education program contributes to the functioning in our university multimedia centers equipped with modern digital audio, video equipment, computers connected to the Internet, interactive whiteboards and other means to compensate for the lack of language environment. Modern personal computer allows you to quickly and accurately solve the complex system of equations, to plot the dependence graphs, to modeling reproducible experiment [Bobrova LN et al, 2008]. Students as future professionals need to be fluent skills on computer and master the computer educational technologies that are widely used in the educational process and scientific research.

Here it necessary to master the methods of computational physics is an independent writing by students of different computer programs on algorithmic programming languages and the ability to work with modern packages and systems of computer mathematics. These include the MathCAD package - a common enough automatic design system, which integrates document editor, system integrator, the Resource Center, e-books, the help system, Internet browser.

For example, in the study of the discipline «Computing Methods of Physics» on the 3rd course uses the MathCAD package. This program is useful for teaching different methods of computer modeling, and to reinforce knowledge and understanding of the technical terms in English. Student is learning different methods of solving physics tasks by using standard commands and functions of the English. Repeated use of these commands and operations lead to the automaticity in using of need terms in the English.

Using MathCAD program in the study of physics in terms of polylingual education is caused, because the built-in library contains descriptions of functions and the standard mathematical commands in English. At the making up the computational algorithms and programs, students use a variety of commands or mathematical operations by means of standard functions in English. And during the process they study terms and new words automatically, the vocabulary is enriched. During conducting

the various mathematical operations - commands from the menu bar window of MathCAD are carried out in English. In some aspects of using MathCAD for effective teaching disciplines in physics are discussed. In general, we can motivate the expediency of MathCad as follows [Sakipova SE et.al., 2011]:

- MathCad makes study of physics easier, since relieves student from the mass of routine computing work.

- MathCad makes the study of physics more interesting, because it allows considering a number of interesting and previously inaccessible issues at high level.

Therefore, taking into account the fact that graduates of the specialty 5B011000 - Physics (educational) are focused on the teaching physics at schools in English. Therefore, as the case of practical tasks students in the study of the discipline «Computing Methods of Physics» are offered to prepare lessons or fragments of lessons on the physics by using MathCAD. The menu <Help>, in particular «Reference Tables» provides the necessary reference information in physics, for instance, the values of Fundamental Constants, tables of Derivative Formulas and Integral Formulas, formulas for calculating areas and volumes of bodies, almost all the formulas on the Physics - Mechanics, Periodic Table of Mendeleev, the formula for calculating moments of inertia, the physical properties of various materials, etc. [Porshnev SV … , 2002]. These data are convenient to use for teacher and students at the preparation of demonstration slides for the lectures, for the construction of graphs and diagrams of processes in the calculation of physical parameters, in the solution of physical tasks.

In addition, the package MathCAD has a powerful mathematical tool that allows carrying out symbolic computation, to solve systems of algebraic and differential equations, operations with vectors and matrices, write programs, build graphs and surfaces, etc. The distinctive feature of the package is the use of familiar standard mathematical notation; i.e. a document on the screen looks exactly like an ordinary mathematical calculation. It is unnecessary to study any system of commands to use the package. MathCAD is a visual programming environment, i.e. does not require knowledge of a specific set of commands. Ease of mastering the package, friendly interface, the relative simplicity to possibilities of computer were the main reasons that particular this package has been selected for teaching students numerical methods. MathCAD is constructed in accordance with the principle WYSIWYG - "What You See Is What You Get".

The structure of MathCAD consists of several integrated components:

- a powerful text editor that allows you to enter, edit and format both text and mathematical (physical) expressions;

- computing processor, able to perform calculations on the entered formulas, using the built-in numerical methods;

- a symbolic processor, which is, in fact, a system of artificial intelligence;

- a huge repository of reference information, such as mathematical and engineering, structured as an interactive e-book.

The combination of these features creates a convenient computing environment for a variety of physical calculations and at the same time, documentation of the work results, and formation of the important components of the interactive studies. All of them are taken into account during developing lesson plans and used during the lesson on physics. There one of the conditions of high-quality training of future specialists in the system of higher education is carried out - involvement of each student into cognitive activity, implementation their knowledge in practice and clear understanding of where, how and for

what purpose this knowledge can be applied. In the modern didactics discussion principle of the material presentation entered into the practice of teaching different subjects in the form of problem-based learning, when the teacher provides students with a number of initial data, so that in the process of self-searching they can find a solution to this or that issue.

With regard to the practical relevance of such studies, it is beyond doubt. First of all, it is interesting for students, now students have unlimited possibilities of use of electronic resources. Each student during the preparation of his/her methodological project uses the most interesting resources: someone pays more attention to the animation of processes and experimental demonstrations, someone to the fundamental character of the formulation of definitions and physical concepts or laws, someone to colorful design of slides and animations, somebody to correct formulas and algorithms of calculation in MathCAD. As a rule, there is no repetition and same standard working out. All these aspects are carefully studied and discussed during the presentations demonstration with working out of lessons. Secondly, at the end of the semester each student has 7-8 ready development of different lessons on physics, with use of modern computer interactive technologies. Students can use them in their future careers.

4. MODELING OF TRAJECTORIES OF CHARGED PARTICLES IN THE ELECTROSTATIC FIELD BY MATHCAD

Special cases of focusing of charged particles beams in an electrostatic axially symmetric hyperbolic field are studied previously. Hyperbolic field is described by the potential

$$U(r,z) = a\left(\frac{r^2}{2} - z^2\right). \quad (1)$$

In work [Zashkvara VV et al., 1976], the possibility of focusing on the field (1) axially symmetric beams of charged particles, emitted by a point source located on the axis, is analyzed. Field (1) is formed by two conical electrodes (4) being under the zero potential, and a hyperbolic electrode (5) which has a potential of the same sign as the charge of the particles

We considered that parts of the surface of conical electrodes are transparent, through which the beams of charged particles enters into the region of the field. As a result, the focusing effect of this field on the beam is circular image on the surface of the conical electrode.

In the present case the field, formed between the conical electrodes and electrode with hyperbolic form, is intermediate field between the two cascades in a cylindrical electrostatic mirror [Ashimbaeva et al., 2011]. Accordingly, the entering of the charged particles beam in the region of the deflection field and exiting through the hyperbolic electrode (Fig. 1), being under the zero potential, which implies transparency parts hyperbolic electrode. Let's consider the case:

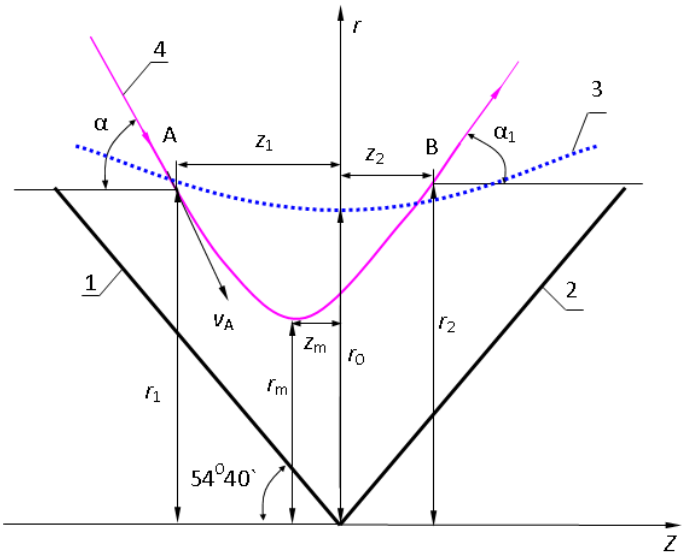
$$U = -a\left(\frac{r^2}{2} - z^2\right) + C. \quad (2)$$

Assume that r = r_0 U = 0, then $C = ar_0^2/2$ and the resulting

$$U = -a\frac{r^2 - r_0^2}{2} + az^2. \quad (3)$$

The equation of potential lines for U = 0 has the following form

$$r^2 = 2z^2 + r_0^2 . \quad (4)$$



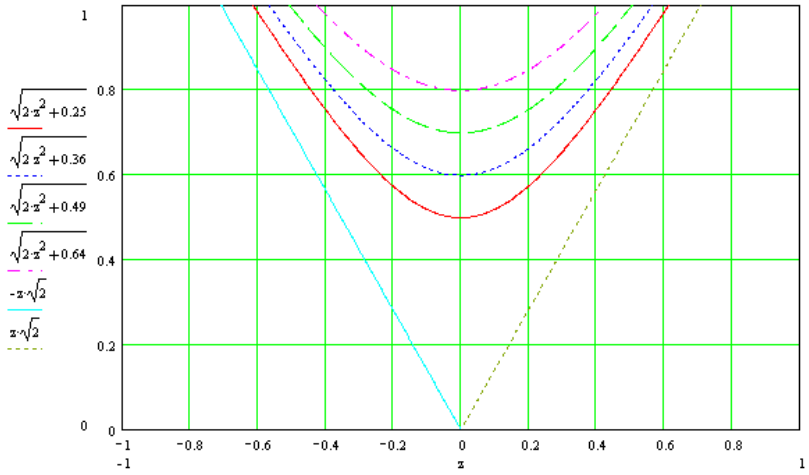
1, 2 – the conical electrode, 3 – the hyperbolic electrode in section with plane r,z,

4 – trajectories of charged particles, r, z – cylindrical coordinates.

Fig.1. The course of the trajectories of charged particles in the electrostatic hyperbolic mirror.

Variants of hyperbolic electrode arrangement for different values of $\mu = r_0/r_c$ coefficient is shown Fig. 2 (r_0 and r_c indicated in Fig. 1 and 5, respectively). For practical reasons (the optimum dept of entering into the field, a minimal impact of grid cells of hyperbolic electrode) for further calculations selected μ = 0.8 coefficient.

At the numerical calculations on the derived formulas arise difficulties due to the presence of several different algebraic expressions that have the limited range of valid values. To optimize the process of calculations and the selection of optimal conditions for the passage of a charged particle beam trajectories, we considered various variants for the entering of particles in the region of the deflection field of hyperbolic mirror (HM). HM in the future be used as an intermediate element between the two cascades of the cylindrical mirror (CM). Note that on the area between the inner cylindrical electrode in a zero potential and hyperbolic electrode, effect of field is missing, so the segments of the particle trajectories in this section are straight line segments. The equation of a straight line, as it is known, is given by formula $r = az + b$, where the a coefficient is determined by the slope of a straight line. This allows to conduct a preliminary analysis to narrow the field of numerical calculations.



The curves in the figure indicate the hyperbolic electrode, respectively, at

$\mu = 0.5$, $\mu = 0.6$, $\mu = 0.7$, $\mu = 0.8$.

Fig.2. The electrostatic HM.

The picture of the penetration of the trajectories of charged particles through a hyperbolic electrode for different values of the entrance angle from 40^0 to 60^0 is shown in Fig.3. As can be seen from the fig.3, at the corners of the entrance 40^0 and 45^0 and at b = 0.5 trajectories does not fall to the HM deflection field, and at 50^0 the trajectory over a extended area passes in immediate proximity to the hyperbolic electrode, which is undesirable.

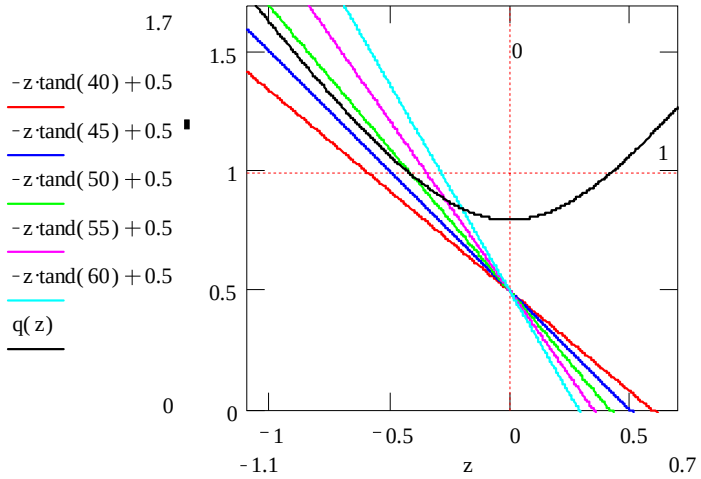


Fig.3. The coordinates of trajectory entrance into HM at b=0.5 for different α.

The trajectories at a fixed value of angle 40^0 for different of coefficient b are shown in Fig 4. In this case, only two trajectories at b = 0.8 and b = 0.9 entered into the region of the deflection field, but it is in the right half of HM (Fig. 4), causing a problem at the exit of the particles from region HM that is, on exit particles will not cross hyperbolic electrode. Thus, these cases are excluded for further consideration. The next fig. 5 shows the variants of trajectories for various *b* and *a*. As can be seen from this fig.5, the best variant is in the range of angles 45^0 - 50^0 with the values b 0.6 - 0.7.

Thus, considering the trajectories of charged particles in the area between the inner cylindrical electrode and the hyperbolic electrode, that is, outside of the field when the segments of the trajectories are straight, will significantly reduce the area calculations of electron-optical characteristics of the combined system of cylindrical and hyperbolic mirrors.

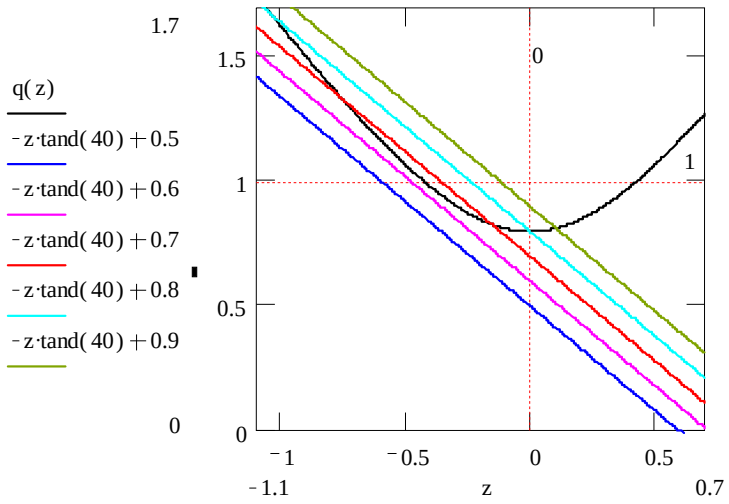


Fig.4. The coordinates of trajectory entrance into HM at $\alpha = 40^0$ for different b.

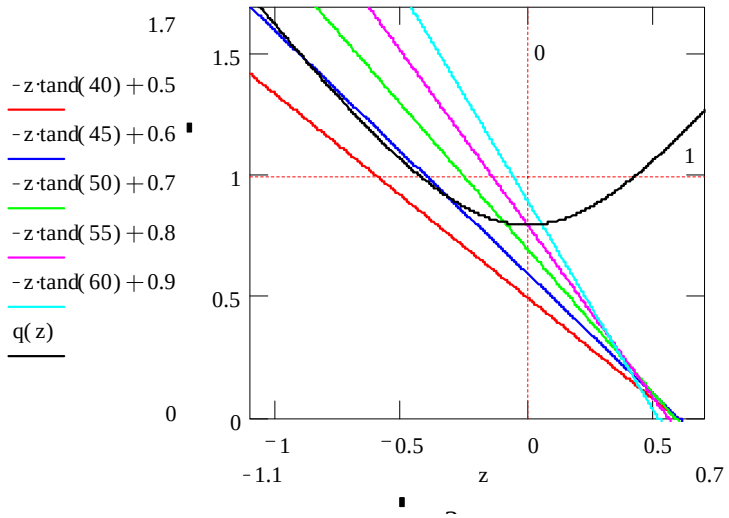


Fig.5. The coordinates of trajectory entrance into HM for different *a* and *b*.

ISSN 1313-2571, Published at: http://www.scientific-publications.net

All calculations on the study of the range of valid values for the coordinates of the trajectory entrance into HM field were performed using the MathCAD Professional package.

By the formula $r^2 = 2z^2 + r_0^2$ (4) found equipotentials. The electrode can be positioned on any of the equipotentials.

Calculations of valid values for the coordinates of the trajectories of charged particles in a hyperbolic mirror

$\mu := 0.8 \quad \alpha := 45, 50 .. 60 \quad \tan(\alpha) := \tan(\alpha \cdot \deg) \quad q(z) := \left(\mu^2 + 2z^2\right)^{\frac{1}{2}} \quad z_0 := -0.2$

$b := 0.6$

$r(z, \alpha) := -\tan(\alpha) \cdot z + b \quad F(z, \alpha) := q(z) - r(z, \alpha) \quad R(\alpha, z) := \text{root}(F(z, \alpha), z) \quad z_\alpha := R\left(\alpha, z_{\alpha-1}\right)$

α	z_α	$q(z_\alpha)$	$r(z_\alpha, \alpha)$	$F(z_\alpha, \alpha)$
45	-0.316	0.916	0.916	$4.966 \cdot 10^{-4}$
50	-0.214	0.855	0.855	$5.341 \cdot 10^{-4}$
55	-0.163	0.832	0.832	$8.815 \cdot 10^{-5}$
60	-0.127	0.82	0.82	$1.504 \cdot 10^{-5}$

$b := 0.7$

$r(z, \alpha) := -\tan(\alpha) \cdot z + b \quad F(z, \alpha) := q(z) - r(z, \alpha) \quad R(\alpha, z) := \text{root}(F(z, \alpha), z) \quad z_\alpha := R\left(\alpha, z_{\alpha-1}\right)$

α	z_α	$q(z_\alpha)$	$r(z_\alpha, \alpha)$	$F(z_\alpha, \alpha)$
45	-0.117	0.817	0.817	$5.427 \cdot 10^{-5}$
50	-0.092	0.81	0.81	$9.266 \cdot 10^{-4}$
55	-0.075	0.807	0.806	$4.298 \cdot 10^{-4}$
60	-0.06	0.805	0.804	$1.93 \cdot 10^{-4}$

$b := 0.8$

ISSN 1313-2571, Published at: http://www.scientific-publications.net

$r(z,\alpha) := -\tan(\alpha)\cdot z + b$ $F(z,\alpha) := q(z) - r(z,\alpha)$ $R(\alpha,z) := \text{root}(F(z,\alpha),z)$ $z_\alpha := R(\alpha, z_{\alpha-1})$

α	z_α	$q(z_\alpha)$	$r(z_\alpha,\alpha)$	$F(z_\alpha,\alpha)$
45	0	0.8	0.8	0
50	0	0.8	0.8	0
55	0	0.8	0.8	0
60	0	0.8	0.8	0

$b := 0.9$

$r(z,\alpha) := -\tan(\alpha)\cdot z + b$ $F(z,\alpha) := q(z) - r(z,\alpha)$ $R(\alpha,z) := \text{root}(F(z,\alpha),z)$ $z_\alpha := R(\alpha, z_{\alpha-1})$

α	z_α	$q(z_\alpha)$	$r(z_\alpha,\alpha)$	$F(z_\alpha,\alpha)$
45	0.09	0.81	0.81	$-1.135\cdot10^{-5}$
50	0.077	0.807	0.808	$-6.239\cdot10^{-4}$
55	0.066	0.805	0.806	$-3.184\cdot10^{-4}$
60	0.055	0.804	0.804	$-1.525\cdot10^{-4}$

$\mu := 0.8$ $b := 0.5$ $z := 1$ $r(b,z) := -z + b$ $a := 40$ $\text{tand}(a) := \tan(a\cdot\text{deg})$

$f(a,z) := -\tan(a)\cdot z + b$ $q(z) := \left(\mu^2 + 2z^2\right)^{\frac{1}{2}}$

```
A :=  b ← 0.5
      for i ∈ 0..4
          z ← -1
          for j ∈ 0..20
              r ← -z + b
              z ← z + 0.1
              a_{j,i} ← r
          b ← b + 0.1
      a
```

```
B :=  a ← 40
      for i ∈ 0..4
          z ← -1
          for j ∈ 0..20
              t ← -tand(a)·z + b
              z ← z + 0.1
              b_{j,i} ← t
          a ← a + 5
      b
```

ISSN 1313-2571, Published at: http://www.scientific-publications.net

$$C := \left| \begin{array}{l} z \leftarrow -0.9 \\ \text{for } i \in 0..18 \\ \quad \left| \begin{array}{l} g \leftarrow \left(\mu^2 + 2\,z^2\right)^{\frac{1}{2}} \\ z \leftarrow z + 0.1 \\ c_i \leftarrow g \end{array} \right. \\ c \end{array} \right.$$

$$Z := \left| \begin{array}{l} z \leftarrow -1 \\ \text{for } i \in 0..20 \\ \quad \left| \begin{array}{l} z \leftarrow z + 0.1 \\ Z_i \leftarrow z \end{array} \right. \\ Z \end{array} \right.$$

5. CONCLUSIONS

Statement of the problem allows on a certain stage of its solutions to attract students, because after solving the equations, that require knowledge of the basis of integral-differential calculus, all calculations are carried out on the exact formulas for the mean paths of charged particles in this field. In this case, the value of work carried out by students does not diminish as it requires the ability to work on the computer at a level above the average user, the ability to analyze complex mathematical expressions and physical nature of the research processes. To solve the problems in the implementation of performance of research projects by students for several years successfully recruited students of Physics-Technical faculty of Karaganda State University named after academician E.A.Buketov, which is evidence that many of them became winners of regional, national and international competitions of scientific works students.

The proposed work on modeling has two aspects. The first aspect - the optimization of performed calculation, having a scientific and practical interest. The second aspect - to attract students, increase their interest in doing scientific work using modern computer technology, as well as increased visibility of the results.

The significance and importance of the effective use stage of presentation of methodological developments in the fact that herewith happen the analysis of the project activity, including self - and mutual assessment (reflection). Indeed, during demonstration and discussion of presentations with development of lessons students clearly see the advantages and disadvantages of some form of presentation of training material. Responding to questions of teacher and their group mates, students more clearly understand the content of the lesson.

The most important thing, using the possibilities of the applied program MathCAD, students are getting the skills of memorization, the ability to correctly pronounce the physical and mathematical terms in English.

In training results of the joint work of students in the group are summarized, a qualitative assessment to the done work is given. Summarizing, we can once again note that the use of professional-oriented technologies facilitates ability to formulate the problem, to identify ways to solve it, to plan the work, to pick up the necessary material, etc. In the process of this activity the students are developing their intellectual abilities, character traits such as dedication, perseverance, diligence, acquires a certain skills.

Thus, in teaching students specific subjects in English in higher education professors should pay special attention to: the active forms of mastering the subject, including elements of the problem, scientific

research, extensive use of reserves of autonomous work, the introduction of the professional-oriented educational technologies, allowing not only to intensify, but also to personalize the learning process.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

INNOVATIVE WAYS OF TEACHING PHYSICS AT CREDIT-BASED UNIVERSITIES

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KAZAKH NATIONAL AGRARIAN UNIVERSITY

In the message to the people of the Republic of Kazakhstan- President Nursultan Nazarbayev has mentioned that the education system should be aimed at obtaining teaching profession, qualifications, knowledge and skills that are appropriate to the world level, for the preparation of a competitive, sought after in the labor market graduate students. [1] After all, the ultimate purpose of education and the basic characteristics of its quality - is the professional competence of a specialist.

The problem of training qualified specialists in the field of agricultural engineering is due to a new stage of social and economic development of Kazakhstan, requiring a significant increase in human resources of the country on the basis of innovation in education. Fundamental changes in the methods and mechanisms of state regulation of market relations determined the need for highly skilled and competitive specialists and dictate the need to improve the training of agricultural engineer, using innovative research methods for teaching and learning activities, ensuring the formation of professionally designed creative personality.

In modern conditions, providing orientation training of future professionals in the direction of their future professional activity has increased the importance of physics as a science and engineering foundation and it pushed for the necessity to develop a system of professional orientation of physics in agricultural universities, providing scientific basis for the formation of a special professional competence of students - future professionals.

Among the natural sciences physics enjoys a dominant position by virtue of its linguistic and methodological role in relation to other natural sciences, the range of physical skills and methods of research form the basis of all natural science.

Consequently, the teaching of physics and other scientific disciplines need to be translated to another new level. This requires a fundamental change in the educational process in higher education, when student acts as a passive consumer of knowledge on classical physics textbooks, very voluminous and monotonous on the presentation of the material.

Physics and other basic natural sciences are the basis for further study of special disciplines of engineering. Knowledge of the fundamental laws of physics that do not become obsolete with the development of science and technology make it possible for the professional to adapt in the world of rapidly changing technology, but in a modern education of engineering the role of physics is not limited to mastery of fundamental concepts and laws.

Traditional training, focused on building knowledge and skills in the subject area, more and more lags behind the date. In modern conditions - becoming a common educational space, high quality of education is strongly associated with the objectives of the Bologna process: academic mobility, recognition of qualifications, the introduction of credit systems, conversion units by type of ECTS and so on.

The socio - economic situation in modern Kazakhstan necessitated the modernization of education, rethinking of traditional theoretical approaches and accumulated practice of education. Concepts of

modernization of higher and vocational education are provided to the priorities of education, accessibility, quality, efficiency, professional orientation.

State standard of higher education in specific occupations as a normative document defines the basic principles of the state policy in the educational organization. It sets mandatory minimum competencies that the student must master in the education process.

In accordance with this standard educational process in higher education institutions of Kazakhstan is based on the credit system of education which aimed at the full account of the interests of students, providing them with educational needs, creating competition between teachers, improvement and application of various teaching methods and forms of control of educational achievements of students.

Credit technology training aims to ensure international recognition of national educational programs, creation of conditions for the mobility of students and teaching staff of educational institutions, as well as improving the quality of education.

The standards of the new generation of graduate level of education reflects the following requirements: general education, social, personal, economic, organizational and managerial, professional and specialized competence; readiness of changing social, economic, professional roles, geographic and social mobility in terms of increasing the dynamism of change; education for basic cycles and separate academic disciplines.

The standard establishes mandatory minimum knowledge, skills and competencies that graduate student must have on graduation. This will ensure the convertibility of documents on education, the recognition of the level of training in other countries.

The basis of education should be not so much academic disciplines as ways of thinking and learning activities. It is necessary not only to release a specialist, who has received training high theoretical level, but also to incorporate it at the stage of training in new technologies and adapt to the conditions of the specific production environment, make it a guide for new solutions, successfully performing the duties of a manager.

In the Republic of Kazakhstan "Physics" as a discipline in National Education is a required course for many undergraduate majors (Bachelor).

In the Kazakh National Agrarian University, as well as in all institutions of the Republic of Kazakhstan, training is held by the credit based program. At bachelor program, number of credits on the teaching of basic and at the same time intensive and bulk disciplines such as physics has decreased dramatically, while the physics and mathematics are theoretical and basic foundation of all engineering and agro-technical professions. Due to this fact, the problem of teaching general physics course for bachelors in the credit based program is an urgent task.

On the one hand - reducing classroom time at a certain number of credits allocated to the discipline, on the other - the need to give basic knowledge of physics. In the early 80-ies for the study of general physics course in high schools used to be four semesters with 18 weeks. Under these conditions, it was possible to provide a sufficient level of knowledge and skills of the future agricultural engineer. Today, according to the curriculum of universities only 3 credits with studying it in a 15 week semesteris given for the basic course of physics, for example, the specialty 5V080600 - Agricultural equipment and technology. Thus it is necessary to take into account the fact that physics is an experimental science, it suggests practical classes, laboratory sessions, mathematical processing and analysis of experimental data besides lectures.

Large amount of information received in the learning process, while at the same time, the shortage of classroom time during the credit based program require the introduction of new, innovative approaches and learning technologies to enable not only learn, but also to systematize knowledge. The problem that pops up is the optimal balance between the fundamental components of education and training.

The limited training time and the need for communication with the effective use of the proportion of teaching time for independent work of students (IWS), require the development of new and effective teaching methods aimed at profound assimilation of acquired knowledge and the development of practical action, based on increasing the level of autonomy and creativity in the process of cognitive activity.

It is not just about increasing the number of hours to work independently. Strengthening the role of the IWS is a fundamental revision of the organization of the educational process in order to develop a student's ability to learn independently, to form his capacity for self-development. The decisive role in the organization of the IWS owns the teacher, who should not work with the student, "generally", but with a specific person, with his/her strengths and weaknesses, individual abilities and inclinations. The task of the teacher is to see and develop the best qualities of the student as the future professional or specialist with high qualifications.

Independent work of students (IWS) promotes the formation of a creative development of the individual, able to make their own choices and to realize the goals that go beyond the prescribed standards, able to analyze problems arising in production, to find their optimal solution, which ultimately determines the competence of a specialist. In this regard, it should be recognized that the *independent work of the student* is not just an important form of educational process; it must be his/her base. The purpose of the IWS curriculum - to teach students to intelligently and independently work with the material at first, then with scientific information, to lay the foundations of self-organization and self-education in order to instill the ability in the future to continuously improve their skills.

The purpose of searching for new innovative approaches to teach physics - the maximum adaptation of the learning process to the individual needs of students, teaching methods of IWS, self-control, research methods; the development and improvement of skills to work independently, to acquire knowledge.

Consider some of the methods and techniques that are most suitable for the teaching of physics and enhance the effectiveness of training.

In order to solve the problem of systematization of knowledge and best learning there is a training module technology, which consists in splitting the bulk of information in specific doses - modules to warrant the manageability, flexibility and dynamism of the learning process.

At the beginning of this module, the students have aim that is been set for them, which physical theories, formulas, methods, he/she should know, with specification of sources in order to gain knowledge - books and manuals. The study of the module is completed through thecontrol. The main indicator is the objectivity of the evaluation, so at the beginning of this module, students should be clear about the system of monitoring and assessment criteria.

The widespread practice of universities in modern ranking system - is the routine tracking of quality of learning and skills in the discipline which allows to reach smooth work of the student during the semester. According to the program of discipline which called Syllabus, in which all the marks are written on all types of student learning activity and the students themselves can regulate their learning achievements.

Very useful as well, in terms of innovative educational environment, may be the use of a test of knowledge and skills of students, which is characterized by the objectivity, as well as saves time of a teacher, largely frees him from routine work and allows to concentrate more on the creative part of teaching. Use of tests is very efficient at IWS for learning and self-control. In this case, student checks his knowledge by himself. If he/she did not answer directly to the test task, the student receives a hint which explains the logic of the task and then student answer it the second time.

Satisfaction from rising from year to year of training requirements for engineers, agricultural engineers, with the continuing constraints of time of studying physics, consequently, an increase in capacity of informative educational material, the lack of funds for updating the material and technical base, it is impossible without the introduction of new information technologies (NIT) in educational process.

The introduction of new information technologies in the educational process allows you to bypass many of the difficulties and in combination with traditional improve the quality of education, also it can encourage students to become more active in learning activities, as well as they can use their individualized learning process more efficient during study time. In the study of the physics course we can use the video version of the laboratory work and video tasks, computer modeling of physical phenomena and processes that perform virtual labs, prepare computer works and data analysis of the lab works, as well as computer testing in training mode and control. In fact, every activity of the student can be followed by the individual elements of the IT support.

It is worth noting that increasingly penetrating into the learning process automated trainings and teaching - control systems that allow undergraduate students to study independently and simultaneously control the level of mastery of the material become more and more useful among educational systems.

At this time in the universities of Kazakhstan we can see that «e-learning» gradually being introduced, which implies the technical equipment of schools with modern multi-media training, Internet access and a wide use of e-learning resource material. In this regard, there is the possibility of using electronic textbooks throughout the new generation and format of physics, which usually include theoretical material, virtual labs, the bank of test questions and etc. By self-working with them, student can directly participate interactively in obtaining and retaining knowledge.

At the present stage there is a need for modern innovative textbooks in national language, which must contain the integrity of the material, tests should not be one-sided, we should make it possible for the student to self-test at the time of IWS, available animations must be accompanied by explanations and notations, tasks should have specified algorithm of solutions, laboratory works should be in all fields of physics, as well as graphics and drawings should meet the current requirements of bookdesign. At the same time, in the pursuit of innovation we need to try to avoid “gamezation” of the learning process.

The combination of the fundamental curriculum content in physics with laboratory and practical form of learning is invaluable for the development of intellectual abilities that are necessary for high quality training as well as competitive in today's labor market, which should not only master a certain amount of knowledge and solve typical problems, but also have the ability for self-education, creativity, adaption to the changing conditions of activity, self-directed tasks and have the strength and ability to solve them.

In compiling of educational and methodical - didactic complex in physics we need to consider future specialization of bachelors of diversified agricultural university. The education program must provide a sufficient volume of material by the fields of physics that is essential for the future of the graduate degree, such as Bachelor of electricity at the rate of electromagnetism and etc.

At the same time the main system-forming factor in the curriculum of universities, of course, should be a specialty. It is the sphere of application of the knowledge gained as well as checking their accuracy. Knowledge are most valuable for future professional, of course if they fit into the elements in the system of knowledge of the profession and that is why while preparing our education programs, different employers are invited in order to take their views into account.

The aims and objectives of teaching physics at the agricultural university with credit based program are following: students should be provided with a clear understanding of those physical tasks, the solution of which are being successfully used in industrial development of agro-industrial complex of Kazakhstan.

In order for graduate student of agricultural university to be competitive and in demand, he/she must be able to work with modern measuring and controlling instruments as well as to acquire research skills to work with them.

Competitive specialist should be able to analyze and build physical and mathematical models of applied problems, also have an abstract thinking and creative imagination. At lectures on physics student receives the necessary amount of theoretical material on laboratory studies, he/she learned the skills of working with modern measuring and controlling apparatus, also in practical classes of physics, he/she takes engineering calculation skills and develop their logical thinking.

The development of techniques and skills for experimental studies of physical phenomena in the laboratory and practical lessons on physics, help to solve specific practical problems and agro-engineerial tasks in the future. As a result of studying physics, students also learns physical principles and mechanisms that underlie specific real production processes.

As a result of studying physics students acquire the basic methods of research, they learn how to properly analyze them, work with modern physical instruments, learn to determine the allowable error of measurements and mathematically handle the data of the experiments.

The use of innovative approaches in teaching physics is closely associated with increased learning efficiency and focus on the end result of the educational process – this is the preparation of highly qualified specialists with fundamental and applied knowledge that are able to successfully acclimate new professional and managerial areas, able to respond flexibly and dynamically at the changing socio-economic conditions as well as having a high moral, civic, and leadership qualities.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

PSYCHOSOCIAL ASPECTS OF PHYSICAL ACTIVITY IN OLDER ADULTS[18]

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Abstract

Growing numbers of seniors in the population of Western countries evoke a pressing need to find ways of maintaining their quality of life as long as possible. Participation in physical activity (PA) is one of the important factors helping to preserve the quality of life, positive self-concept and life satisfaction over the lifespan. In the article, we present selected results of a study conducted on a sample of Czech and US older adults (n=426) aged 60-85 years. The respondents were administered a battery of self-evaluation questionnaires which measured their participation in various types of PA (sport, leisure, work), motivation to participate in PA, and perceived health. The results show certain cultural differences in both groups with the American older adults participating more in sporting PA and the Czech older adults participating in more non-sporting and work-related PA. We also observed a positive relationship between moderate and strenuous PA and perceived health. It seems that the concept of "active aging" has been more accepted by US population and it is only emerging in the Czech context.

Key words: *seniors; physical activity; sport; life satisfaction.*

1. INTRODUCTION

Sport is a social phenomenon with a relation to social structure in which the population of older adults represents an important part. There are many reasons why we should focus on the subpopulation of older people. Without a doubt, the recent global demographical changes are one of the most important reasons. According to demographical estimates, the worldwide population of older adults may grow up to 1 billion people in 2020. Similar demographical pattern has been observable also in the Czech Republic. At present, seniors represent a significant part of the Czech population (more than 18 %) and their proportion will probably grow further. Based on the current demographical trends, it is expected that in the middle of the 21st century seniors will constitute up to 30% of the Czech population. We may expect that this demographical development will have a significant psychosocial impact on the Czech society as a whole.

These changes in the structure of the population have been determined by several factors. In the past hundred years, life conditions in developed countries including health care and social securityhave improved significantly.With growing quality of health care people live longer and infant mortality has become almost non-existent which is reflected in the demographical development. Increasing average life expectancy and growing number of older people has consequences for individuals as well as the whole society. From the economic point of view, it is important that the older people remain

[18] This study was supported by VZ MŠMT ČR MSM 0021620864 and PRVOUK 39.

economically active as long as possible. With growing age, the probability of health complications rises which increases the costs of health care and social security. For individuals it is important to have sufficient financial means not only to cover living costs but also to cover increasing costs of health and social care and satisfy other needs important for self-sufficient and satisfying life. From a psychosocial point of view, for an individualit is important to live an active life with enough leisure activities and satisfying social interactions.

2. PHYSICAL ACTIVITY AND SPORT IN THE LIVES OF OLDER ADULTS

2.1. Psychosocial benefits of sport in older adults

Current studies (e.g. Kučerová 1996; Kramer et al. 2003; Cavill, Kahlmeier & Racioppi 2006; Nelson et al. 2007; Slepička & Pěkný 2008) suggest that maintaining physical self-sufficiency is one of the major benefits of the participation in physical activity and sports. Physical self-sufficiency representsone of the crucial factors determining the quality of life, relative independence and saturation of basic individual needs. Physical activity mitigates the deterioration of physiological and psychological functionsand it helps to preserve positive self-concept, self-efficacy, motoric and social skills and it facilitates everyday functioning.

The studies also show that participation in physical activity positively impacts emotional aspects of life, for example through sharedpositive experiences acquired during exercise. In general, in every life phase sport brings new experiences, enriches the emotional aspects of life, and positively impacts cognitive processes and psychological resilience. In the population of seniors, the social context of the participation in sporting activity becomes especially prominent (Pěkný & Slepička 2010). Social interaction is an inevitable part of the group exercise activities and it helps to satisfy the need of affiliation and overcome the feelings of isolation and loneliness which are often present in elderly people (Kučerová 1996). Therefore, the psychosocial effects of sporting activities help to maintain the quality of life as long as possible.

Pěkný and Slepička (2010) confirmed that in older age people tend to emphasize health related values; health is a commodity which, in general, increases in importance with growing age. High importance of good physical condition stems probably from a need to be physically self-sufficient and able to lead a quality life. Older people also tend to value security and stability and they rate highly the values related to the safe social microclimate. Furthermore, seniors´ value close social relations and the seniors who participate in physical activity emphasize the values of independence, self-sufficiency and openness towards others.

In general, participation in leisure activities is considered as an important or even the main factor of well-being in older adults (Cecil & Heo 2009). Hawkins, Foose and Binkley (2004) have shown that participation in leisure activities positively impacted the life satisfaction of older adults (as measured by Life Satisfaction Index-Z). They also observed some differences between the US and Australian population which suggests that the relationship between the leisure activities and life satisfaction is culturally determined.

Physical activities have an important place amongst leisure activities and they proved to slow down the processes of physical and psychological ageing. Sufficient regular physical activity represents a preventive measure mitigating the health problems related to older age with documented positive impacts on physiological and psychological functioning and the global quality of life in older adults (Leville et al. 1999; Fox 1999; Laurin et al. 2001; Kramer et al. 2003;Netz et al. 2005).

Although the importance of sporting activity for individual psychosocial development is widely accepted in scientific discourse, it does not always reflect in the actual physical activity of older adults. For example, Mudrák, Slepička and Šiška (2011) found that the physical activity of older adults in their sample was relatively low compared to the recommendations of the World Health Organization. 64% of their respondents did not reach the recommended amounts of physical activity, 77% did not participate in any strenuous physical activity and 47% did not participate in any moderate physical activity. Therefore, it is important to ask what motivates older adults to participate in sport and physical activity.

2.2. Motivation of older adults for physical activity

Numerous studies (e. g. McAuley et al. 2003) show that participation of older adults in physical activity is influenced by various variables including social and cultural factors. Important role is played by social support, especially from family and close friends. Also, the importance of physical activity in the cultural milieu is very significant as the respect towards physical culture builds foundations for incorporating physical activities and sports into the lifestyles of people living in the cultural context.

Other environmental factors also play an important role. An availability of the facilities for leisure sporting activities and the physical activities programs tailored to the needs of older adults seems to be especially beneficial. Older adults often do not meet sufficient levels of physical activity for reasons other than lacking motivation. Some studies (Slepičková et al. 2009) show that seniors frequently avoid sports not because of the lack of interest but due to the insufficient opportunity caused by lacking sport facilities and sport programs suitable to the needs and health limitations of older adults. Lacking social support represents other important limitation. Health conditions are often mentioned as a major barrier for active participation in physical activity and it does not matter whether it is an objective evaluation of health problems or a subjective unspecified feeling.

When discussing the motivation of older adults for physical activity, it is important to mention the impact of personality factors. They consist not only of emotional experiences fueling positive attitudes to active sport participation but they are also represented by social cognitive factors motivating the participation in physical activity. Social cognitive theory argues that the changes in individual behavior are determined by changes in self-regulation (McAuley et al. 2011). Self-regulation is usually defined as a regulation of goal-oriented behavior (i.e. physical activity) and it includes various strategies, such as goal setting, seeking reinforcements and social support, self-monitoring and various corrective self-reactions. Another important motivational variable is represented by self-efficacy which is defined as a belief people have about their capacity to perform an activity (Bandura 1997; McAulley et al. 2011).

3. PSYCHOSOCIAL CONTEXT OF SPORT PARTICIPATION IN OLDER ADULTS AS A RESEARCH TOPIC

Research studies of physical activity in older adults have been conducted mostly in the cultural context of developed countries such as USA, Western Europe, or Australia (Cavill, Kahlmeier & Racioppi, 2006; Nelson et al. 2007). The research mentioned above (Hawkins, Foose, & Binkley 2004) considered an impact of two various cultural contexts with differing approaches to leisure physical activity. The study concluded that Australians are a nation highly valuing physical activity whereas USA is a nation with higher orientation towards passive consummation of sports.

In the Czech Republic, a number of studies researched the role of physical activity in the lives of older adults, focusing on their well-being, health and life satisfaction. These studies have predominantly

focused on demographical and environmental factors (Slepička & Slepičková, 2002; Zavazalová et al. 2007), and the social-psychological factors have been significantly less researched. Also, there have not been conducted any studies comparing psychosocial characteristics of Czech seniors and seniors from other countries.

We conducted a study of physical activity in older adults which focused on the structure of their physical activity and also on social-cognitive influences related to their physical activity. The main goals were to explain the role of self-regulation strategies in the motivation of sporting seniors and also to explore the kinds of physical activity they engage in most often. We also researched the impact of cultural differences on these variables by including a comparison sample of US older adults.

3.1. Research methods

In the study we used self-rating questionnaires of physical activity The Leisure Time Exercise Questionnaire (LTEQ) (Godin & Shephard, 1985) a Physical Activity Survey for the Elderly (PASE) (Washburn et al. 1993) and a battery of questionnaires focusing on the implemented motivational strategies. We used following scales: Barriers Self-Efficacy (McAuley 1993) focusing on beliefs about one's capacity to overcome obstacles of exercise; Exercise Planning and Scheduling Scale a Exercise Goal-Setting Scale (Rovniak et al. 2002) focusing on motivational strategies such as planning and goal setting; Social Support for Exercise (Sallis et al. 1987) focusing on perceived support for exercise from friends and family; and Physical Activity Self-Regulation (Umstattd et al. 2009; Washburn et al. 1993) focusing on a wide range of constructs related to self-regulation in older adults. As a method of measuring the perceived health we used a 12-item questionnaire SF-12(12-Item Short-Form Health Survey) (Ware, Kosinski & Keller 1996). This questionnaire focuses on global self-evaluation of health, perceived limitations stemming from the health conditions, and physical, emotional and social aspects of perceived health. For measuring life satisfaction we used The Satisfaction with Life Scale (Diener et al. 1985). This questionnaire has been frequently used in a variety of studies as a measure of global life satisfaction. It consists of five items which evaluate the satisfaction in various domains according to respondent's values and standards. Every item consists of a 7 grade scale ranging from "strongly disagree" to "strongly agree" where the higher score represents the higher level of life satisfaction. The Satisfaction with Life Scale is an instrument with good inner consistency and validity and it is suitable for research on the population of older adults (Diener et al. 1985).

3.2. Sample

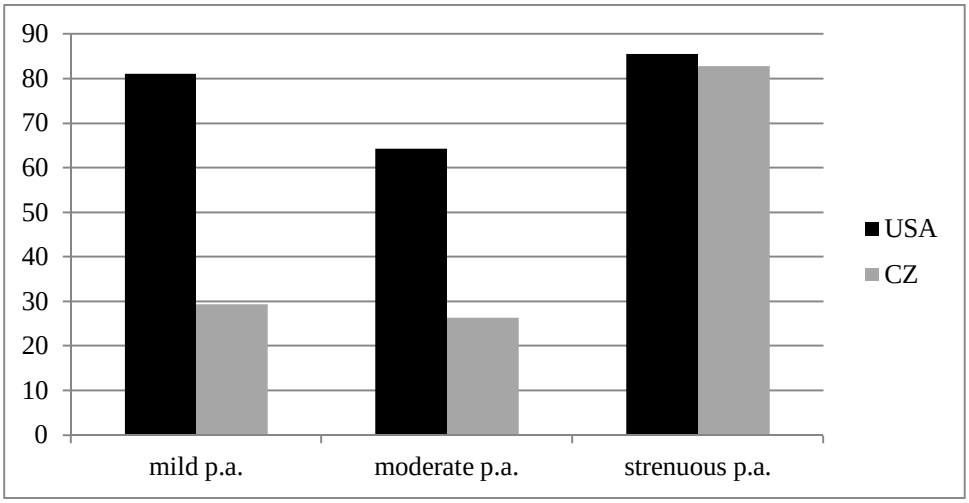
426 older adults aged between 60-85 years participated in the study. 254 respondents lived in the Czech Republic, specifically in the capital of Prague, regional capitals (Plzeň, Brno), and a medium sized town (Uherské Hradiště). 174 respondents come from the central part of the US state Pennsylvania. In both samples the majority of participants were women, with even higher proportion of women in the Czech sample. On average, the US sample was slightly older; both samples were similar in the BMI index and the marital status with more US participants living in marriage. The main difference between both samples was in the social economic status. In the US sample, the respondents had predominantly university education, whereas the respondents in the Czech sample had predominantly high-school education. Also, in the Czech sample, the average household income of most respondents was under 20 000 CZK whereas in the US sample almost half of the respondents belonged to the group with a monthly household income over 5500 USD (about 95 000 CZK).

4. RESULTS

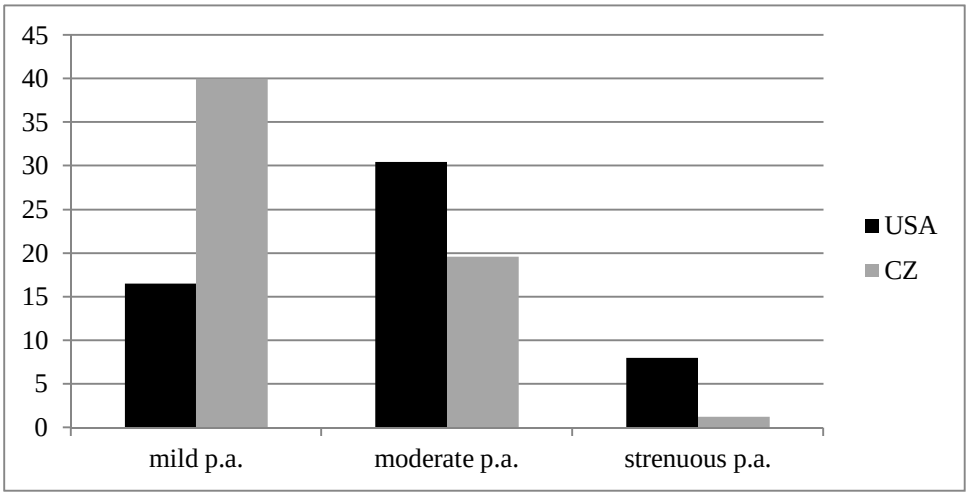
In the next part of the article we present selected results of the study documenting the psychosocial context of physical activity in seniors.

4.1. Participation in physical activity

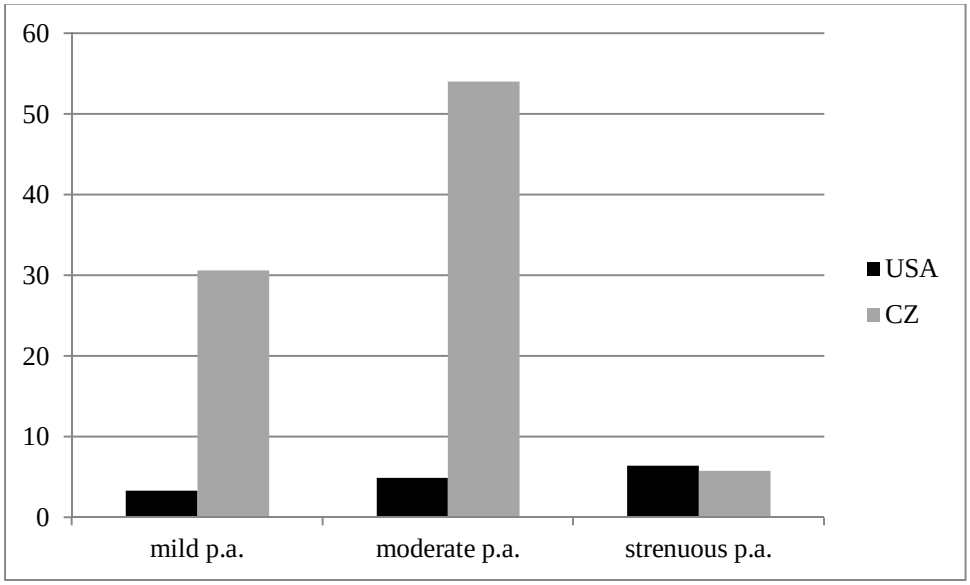
When we researched the participation in physical activity we inquired about the types of physical activity the respondents engaged in. We differentiated between leisure sporting and non-sporting activities and household related physical activity. In the following graphs, we compare the participation in these activities in the Czech and US sample on various levels of intensity.



Picture 1 Comparison of Czech and US seniors in the sporting physical activity on various levels of intensity (%)



Picture 2 Comparison of Czech and US seniors in the non-sporting physical activity on various levels of intensity (%)



Picture 3 Comparison of Czech and US seniors in the household physical activity on various levels of intensity (%)

From these results it is obvious that Czech seniors participated in different activities than US seniors. In Czech seniors, the non-sporting activities conclusively dominated; especially the light and moderate intensity household activities such as working at cottage, gardening, and going for a walk, unambiguously prevailed. On the other hand, American seniors mostly indicated a participation in leisure sporting activities, such as group exercises and working out with sport equipment. At the strenuous level of intensity, both groups showed more similarities. US participants mostly mentioned working out with sporting equipment, cycling, and swimming. Czech participants mentioned predominantly swimming and cycling.

4.2. Cognitive motivational strategies related to the participation in physical activity

Another goal of our study was to explore the cognitive motivational strategies which modify the participation in physical activity. We present some of our results in the following tables (** results significant on 1% level, * on 5% level).

	CZ	USA
Lifestyle physical activity self-efficacy **	60,47	80,05
Physical activity as displaced priority *	3,52	3,71
Planning and scheduling of physical activity	2,54	2,50
Goal setting of physical activity **	2,19	1,88
Barriers self-efficacy **	41,94	55,29

Table 1 Differences in self-efficacy motivational variables

Lifestyle physical activity self-efficacy and Physical activity as displaced priority positively dominated in the US sample. Also, American seniors strived more intensively to overcome situational barriers of physical activity. On the other hand, the Czech seniors indicated more goal setting related to physical activity. It may be related to the fact that they participated more in working non-sporting activity related to their normal everyday activities, such as shopping, household chores, or gardening.

	CZ	USA
Self-monitoring of physical activity **	2,72	3,41
Goal-setting	3,18	3,30
Seeking social support	2,16	2,24
Seeking reinforcements of physical activity	3,56	3,64
Time management	3,07	3,26
Relapse prevention **	2,40	2,96

Table 2 Differences in self-regulation related to physical activity

The concept of self-regulation consists of various variables related to self-regulation strategies influencing physical activity, such as focusing on the health benefits, improving one's looks, or regularity and intensity of participation. We observed also differences in relapse prevention which is related to preventing the occurrence of the physical activity barriers which may disturb the participation in lifestyle physical activity.

	CZ	USA
Perceived social support - family **	2,54	2,91
Perceived social support – friends	2,66	2,59

Table 3 Social support – motivational differences

The US sample perceived stronger social support for exercise, especially in the social microclimate of family. The social support from friends was slightly higher in the Czech sample but these results were not statistically significant.

On the basis of these results, we may argue that aging acquires different meanings in the Czech and US societies which probably stems from different social-cultural traditions in both countries. In the US, the concept of "active" or "successful" aging, emphasizing the activity and productivity in older age as well as personal responsibility for "good" aging, has been well-established (Rowe & Kahn, 1998). In the Czech context, these concepts have emerged only recently (Holmerová et al. 2006; Zavazalová et al. 2007). The notion of leisure sporting physical activity as a part of "active aging" seems to be much more present in the US sample than in the sample from the Czech Republic. In the Czech context, for example Slepička and Pěkný (2008) found that Czech older adults in their study emphasized the social aspects of participation in physical activity over the physical activity itself. As the most important limitation of the

participation in physical activity, Czech older adults perceived insufficient social support and unavailability of exercise programs suitable to their needs and health limitations.

The cultural and social economical differences probably fuel a different approach to physical activity in both countries. The US respondents stated significantly higher level of motivation to leisure sporting physical activity. Their higher motivation consisted of higher self-monitoring, higher self-efficacy related to physical activity and higher perceived social support to physical activity. These results suggest that the concept of physical activity as a part of "active aging" currently emphasized in the scientific and health discourse is much more present in the US than Czech older adults.

Some authors (Brawley, Rejeski & King 2003; Satariano & McAuley 2003) show that cultural norms may limit accessibility of some kinds of physical activity which seems to be the case also in the Czech respondents. Even when they participate in physical activity as such, they do not focus on leisure and sport activity which may limit their interest in these activities as well as their efficacy beliefs related to physical activity (Satariano & McAuley 2003). These findings highlight the importance of intervention programs which should in the Czech Republic focus on raising the awareness about the importance of physical activity and also on creating opportunities for Czech seniors to participate in physical activity. This applies, above all, to the light and moderate physical activity as the Czech seniors stated similar activities at strenuous level of intensity; similarly to their US counterparts, they mostly mentioned cycling and swimming.

4.3. Physical activity, perceived health and life satisfaction in Czech older adults

An interesting topic related to physical activity in seniors is the impact of physical activity on perceived health and life satisfaction. We also focused on this problem in our study of Czech seniors. In the second phase of the study we examined the relationship between physical activity and perceived physical and psychological health. We found a significant relationship between both constructs of perceived health as measured by SF-12 questionnaire and leisure physical activity as measured by LTEQ questionnaire. The correlations were r=0.268 in physical health and r=0.231 in psychological health. On the other hand, weaker correlations were observed between perceived health and global physical activity as measured by PASE questionnaire. The results suggest a positive health impact of leisure physical activity (see table 4 - significant coefficients highlighted in bold). The results of our research add to other studies (e.g. Fox 1999; Leveille et al. 1999; Laurin et al. 2001; Kramer et al. 2003; Netz et al. 2005) which show the importance of physical activity for optimal functioning in older age. We found that perceived health in our respondents correlated with their self-rated physical activity. However, it is important to note that this relationship was significant only at strenuous and moderate intensity level and mild physical activity was unrelated to perceived health. Also, when we compared respondents who meet/ do not meet the physical activity recommendations of World Health Organization (WHO 2010), the importance of at least moderate level of physical activity stood out as the physically active respondents perceived themselves as significantly more healthy than physically non-active respondents. Also other studies come to similar conclusions. For example Li et al. (2004) found that 24 weeks of moderate physical activity (tai-chi) caused a significant increase of physical health in a group of seniors. Fox (1999) showed that participation in regular physical activity in older adults has therapeutic effects in lighter forms of depression and anxiety, increases the ability to cope with stress and positively influences the quality of sleep. Similarly Ruuskanen and Ruopilla (1995) found in Finish physically active seniors higher perceived health and lower incidence of symptoms of depression.

Spearman rho		Physical health
PASE	Correlation Coefficient	**,117***
	Sig. (2-tailed)	,038
	N	313
LTEQ	Correlation Coefficient	**,268****
	Sig. (2-tailed)	,000
	N	274
LTEQ Strenuous p.a.	Correlation Coefficient	**,225***
	Sig. (2-tailed)	,018
	N	109
LTEQ Moderate p.a.	Correlation Coefficient	**,239****
	Sig. (2-tailed)	,001
	N	182
LTEQ Light p.a.	Correlation Coefficient	-,004
	Sig. (2-tailed)	,949
	N	253

Table 4 Relationship between physical activity and perceived physical and psychological health

Perceived health is without a doubt also related to the global evaluation of one's life represented by the life satisfaction. We researched possible emotional outcomes of physical activity and analyzed the relationship between various levels of physical activity and the life satisfaction, as reflected in the Leisure Time Exercise Questionnaire and Satisfaction with Life scale. It was found that perceived life satisfaction was significantly related to moderate physical activity (r=0.27), even slightly stronger relation was found between the life satisfaction and combined moderate and strenuous physical activity (r=0.27). On the other hand, there was no significant relationship between the life satisfaction and mild or only strenuous physical activity (see table 5 - statistically significant results highlighted in bold).

Type of P.A. / Items of SWL	Ideal	Conditions	Satisfaction	Goal attainment	Change	Total
Strenuous P.A..	0,07	0,01	0,08	0,08	-0,01	0,04
Moderate P.A..	**0,28**	0,11	**0,15**	**0,23**	**0,19**	**0,27**
Mild P.A..	0,01	-0,08	-0,05	0,06	-0,04	-0,02
Strenuous and moderate P.A..	**0,28**	0,11	**0,21**	**0,26**	**0,17**	**0,27**
Total P.A.	**0,16**	0,019	0,11	**0,22**	0,07	**0,15**

Table 5 Correlations between the type of physical activity and items of SWL scale (Spearman R)

Similar research results have been presented in many studies (Ruuskanen & Ruoppila 1995; Fox 1999; Penedo & Dahn 2005) suggesting a positive relationship between physical activity and life satisfaction. It was found that the respondents who met the recommended amount of physical activity usually indicated significantly higher level of satisfaction with life than the non-active ones. Fox (1999) overviewed up to date research on this topic and found extensive evidence of positive impact of physical activity on various emotional outcomes in seniors; for example, regular physical activity appeared to be therapeutic in mild forms of depression and anxiety, improved resiliency to stress or quality of sleep. Similarly, Ruuskanen and Ruopilla (1995) found significantly higher occurrence of depression in non-active Finish seniors; on the other hand, physically active seniors indicated significantly higher subjective health and perceived meaningfulness of life. This relationship seemed to be reciprocal– people who stated higher levels of subjective well-being were more inclined to be physically active in older age.

However, it seems that not all types of physical activity were related to the positive emotional outcomes in the participants of our study. We observed a significant relationship between life satisfaction and moderate physical activity or combined strenuous and moderate physical activity. Conversely, mild or only strenuous physical activities were not significantly related to the life satisfaction. These results indicate that seniors should exert sufficient effort in order to make use of the beneficial effects of physical activity and, at the same time, that strenuous physical activity is not the most beneficial type of activity for the senior population.

5. CONCLUSIONS

In present study we strived to understand some cultural specifics of the participation of older adults in physical activity. It seems that the concept of physical activity is not as widespread in the Czech seniors as it is in Western countries. Therefore, we emphasize the importance of intervention programs because the respondents did not increase their participation in physical activity on their own. Apart from exercise programs, habitual physical activity should be also supported. Seniors may be able to overcome the motivational problems they often experience when physical activity is not their main focus but a byproduct of other activities. Educational programs and suitable exercise programs striving for higher inclusion of older adults in physical activity would be also very beneficial.

Furthermore, we found that physical activity in seniors was significantly related to their perceived health. However, this finding applied only to some types of physical activity. We found a significant relationship between perceived health and strenuous (r=0.27-0.50) and moderate physical activity (r=0.19-0.38). We did not find a significant relationship between perceived health and mild physical activity. Similarly, we found a significant relationship between the life satisfaction and moderate physical activity or combined strenuous and moderate physical activity. Conversely, mild or only strenuous physical activity was not significantly related to the life satisfaction. These results indicate that seniors should exert sufficient effort in order to make use of the beneficial effects of physical activity and, at the same time, that strenuous physical activity is not the most beneficial type of activity for the senior population.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

A SEMIOTIC APPROACH IN TRAINING „THEORY OF COMPOSITION“ WITH STUDENTS MAJORING "ENGINEERING DESIGN"

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Abstract

Heuristic constructing of a composition scheme is a fundamental skill for designers. Years of composition studies in the arts have shaped some distinctive interpretations on the subject in many design schools. So far the potentiality to inspire innovative and creative thinking has emerged as an important direction in the process of teaching.

The report aims an initial exploration on the use of some semiotic ideas in training processes. It suggests setting exercises with students while dividing them into two groups and giving them to analyze, compare and design contrasting semantic objects – antonyms.

Splitting attendees into teams and working on tasks with equivalent objects are widely used techniques in the practice of design teaching. Still this report modifies this technique as a cognitive method based on the concepts of „semiotic square“ and „semantic differential“. Thus the activities of the groups are not focused on understanding a problem as a unique item, but on the juxtaposition and evaluation of two opposing problems.

In conclusion the paper discusses the appropriateness and scope of such teaching technique. Some results of the approach are illustrated with examples from several exercises in composition design.

Key words: *theory of composition, training composition, semiotic approach, contrasting semantic objects - antonyms, design education*

1. INTRODUCTION

According to Malone (2009, p.31) Heraclitus, who is often quoted as the founder of dialectics, claims that "*All things come into being by conflict of opposites, and the sum of things flows like a stream.*" Fighting opposites are basic for a large number of philosophic schools and doctrine, and also are justified and modeled in various aspects within information theories. Respectively to their type and degree of difference, these battling objects are called in addition mutually exclusive, incompatible, inverse and so on. In the report, they are marked with the common term «contrasting».

Some particular applications of contrasting objects took place in the training classes of «Theory of Composition» with students profiled in «Engineering design» and are explored in the text below. The main educational approaches applied in this course in the University of Forestry in Sofia are fully explained by Zheleva-Martins (2006, pp.323-328). The discipline is developed to open the main ideas in art composition philosophies and methodologies in series of lectures and training classes. Instead of creating one design project, the essence of the training classes is crafting of a number of small, conceptual tasks following the lectures and using drawing techniques, models, or visualizing software.

This way students are forced to enrich their visual thinking and expressing skills, explore the use of major developments in design theories, and finally to create their own point of view.

2. SEMANTIC CODING AND CREATING CONTRAST

The term “contrast” is commonly defined as: “the state of being strikingly different from something else in juxtaposition or close association”, (Oxford Dictionaries, 2013). Meanings of the word “contrast” can be found in different areas of knowledge, covering the synonyms mentioned above. In photography, contrast is explained as the relative difference between light and dark parts in an image; in vision contrast ratios are used to express the differences in color or in brightness between an object and its background; in linguistics, contrast is a specific syntactic relation – causative sentence connector, that compares two different values or applications of one and the same quality, or represents a difference between sounds, used to distinguish meanings; in theory of literature contrast marks situations of confrontation, and so on...

A full, hundred percent contrast, exists much more as a logical construct than as a real life fact. In visual disciplines contrast is usually modeled as ratio, and there are high and low ratio values. The human judgement of contrast is usually not quite precise and it outlines not one strict rate number, but whole areas of close values. A relative contrast ratio may be found as numerical semantic differential scales (as in the task to evaluate the sense of contrast from 1 to 7). The labeled and unlabeled scales, as for example the ones defined by Garland, (1990, p. Table 1), can also be used to express contrast. Even though these two are a quantitative but not qualitative tool, they are in bipolar relationship and suggest linear evolution of the contrast, from one point to another.

Another model of contrast relationship may be found in the concept of Greimas semiotic square, as explained in Hébert (2006). There the two contrasting items (term A and term B) are connected and explored with their negations (terms Not-A and Not-B). Thus the contrast relations are delivered broader, in four non-linear areas and their links.

In theory of composition, contrast is a tool used for rising the interest and/or achieving a chosen artistic effect. In design practice, contrast may be produced by light, shadow, colors, size, line types, silhouette, form, material, texture fractures and characteristics, emotional intimations, rationally derived differences, movement, peace, style features, etc. Respectively, excellence in compositions may be hunted by applying contrast in any of those aspects.

Precise understanding of possible contrast aspects positions and degrees (Figure. 1) strenghtens the ability of a designer to express his ideas and to impress the viewers. The application of the semiotic approach and the analysis of semantic based contrasts in the training classes are the main exploration target of the study.

The theme of semiotics (the science exploring signs) in the course of "Theory of Composition," introduces basic coding terms, processes and techniques. The main purpose of semiotic trainings afterwards is to teach the students to recognize sign-elements, to apply the existing or to create new codes in their designs. Through semiotic methodological apparatus students are probing their own capabilities to express various meanings and achieve different levels of cultural coding in design elements and objects.

In the beginning students train to recognize different types of signs - icons, indexes and symbols as defined in The Commens Dictionary of Pierce's Terms (2003) and to trace their use in design situations.

Then they create graphic compositions on given topics, while experimenting with the information input, with their own sign systems, and focused on chosen elements to achieve artistic effects.

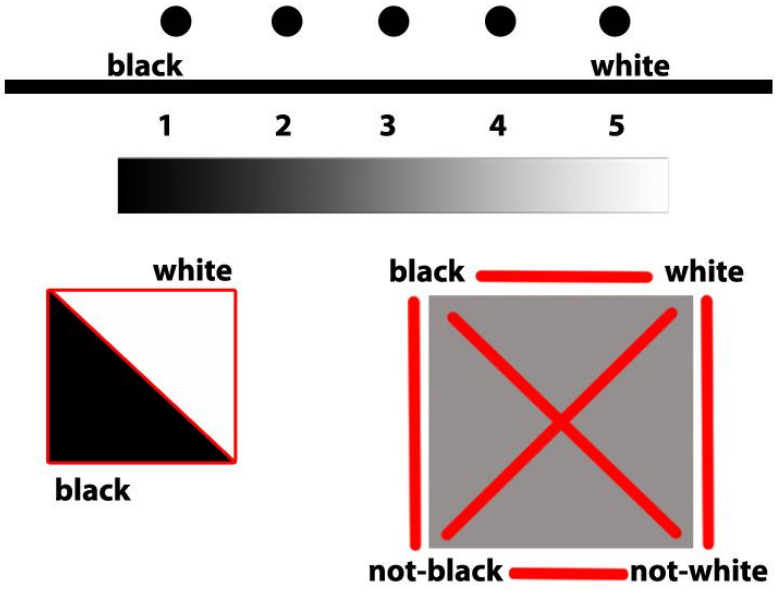

Figure 1. Various representations of “black and white” contrast connection.

In the report, we are analyzing two tasks administered in the winter semester of 2012. Their final stage is creation of an image with semiotic characteristics on a given topic. The task requirements contain elements of complex semantic contrast that must be explored by students. It is also suggested the use of storytelling, rather than abstract compositions, as to help the students to focus on semantic encoding of their images.

2.1 Case Study 1: Solar and Lunar Imaging

The selected topic for the first task are the Sun and the Moon, but such semi-contrast relationships can be traced in semantic comparisons between other couples of terms, such as the elements of "fire" and "water", kinship as "father" and "son", philosophical categories like "spirit" and “matter”, etc. Although those dialectical pairs are in strong opposition in some context, there is also a broad area of of their common characteristics. For example, apart from their astronomical nature, the differences between the Sun and the Moon, are of course in their appearance, their time of presence and environment, their size, color, light reason or strength, impact, perception and etc... The common about them may be found as they are both celestial bodies, they both light the Earth, they are both easily visible from the surface, and are individually or together participants in a huge amount of stories, myths, legends, religious beliefs, cultural traditions.

In the beginning of the exercises, without prior explanation, each student is asked to name "Sun" or "Moon" as a symbol, that he would like to investigate during the lesson. Thus, two groups of students are formed, who then begin to discuss and make lists of the semantic characteristics of each celestial

body. One person in each group is selected to monitor the increasing number of features of his group's symbol, so an element of competition also appears in the discussion.

After some initial listing of characteristics and general mapping of bipolar semantic fields for the selected globe, the groups notice that many of Sun's features have contrasting reflections with some Moon characteristics. (If the Sun is felt as "warm", the Moon is felt as "cold", if the Sun shines in the "day", the Moon shows up in "night", etc.) Usually these features are inverse or are felt as completely conflicting due to contrasting cognitive effects of their perceptions one immediately after other. Directed carefully by the teacher, students form their own heuristic methodology of finding semantic fields by the use of already found features and implying the expected bipolar contrast. The groups are encouraged to trace the differences in perception of the Sun or Moon due to any cultural or subjective visions and distinctions. One of the raised discussion is usually the possible "sex" of the celestial bodies, as the students see it, or as a reference to popular myths and beliefs.

Gradually certain similarities between the globes are also revealed. (If the Sun is associated with “life”, the bipolar relation implies that the Moon must be associated with “death”. On the other hand the Moon is believed to influence phases of pregnancy and living, and to be involved in creating life processes, and Sun also could be disastrously hot and cause and mean death. Or as the Sun is connected with "growth" and “green”, also the Moon is connected with "high tides" and "harvest", etc.). Then the students are encouraged to grade the bipolar connections, to define the degree of their differences and to name the most expressive and the most common features of the globes. Afterwards the teacher raises the question about the existence of “Not-sun” and the “Not-moon” object and features. (Usually the first suggestion of “Not-sun” object is just the water or the wind, but the semantic field broadens quite fast.)

The purposes of this part of the exercises are first to activate the students' attention and partnership and at the same time to make them make the fullest possible register of semantic characteristics of any bipolar pair, based on their mutual knowledge and enthusiasm of participation.

Later on in discussion mode the listed features of the Sun and the Moon are distributed in different sign categories – as possible icons, indexes and symbols. This operations often reveal new, overlooked features. (If stars are indexing the existence of the Moon, which is the respective index for the existence of the Sun? If we can use the beach and the summer romance to symbol the Sun, how the beach and the romance are going to change as if to express the Moon? Is the Sun symbolizing the Moon in some degree and vice versa?)

In the concluding part of the exercise, the students are assigned to create image – storytelling composition, in which they are coding one or more of the features of the globe, they have chosen previously. In addition students are offered to search more information about the themes of Sun and Moon and to present their data and final images to their colleagues. They also must find a number of examples of the use of solar and lunar symbols in the design practice.

Within the described way of processing the data, task conditions and sharing the information in the groups, the observed ease of perception of the semiotic approach is noteworthy. The creative spirit raises and we received overall high performance of a lot of students.

In the resulting compositions student are expected to train their skills to visualize and accent the degree of importance of certain characteristics.

The final images presented can be grouped into several sections:

- Images interpreting solely the Sun and its specific characteristics, like those on Figure 2.

ISSN 1313-2571, Published at: http://www.scientific-publications.net

In them students are trying to locate the most impressive Sun features – such as the existence of shadows, the time flow or the sense of nature and growth and to express it in visual way.

Figure 2. Compositions about "The Sun"

- Images expressing solely the Moon and its specific characteristics, like those on Figure 3. In them students are making accents on the sleep, the sense of night and the search for romantic lunar symbols.

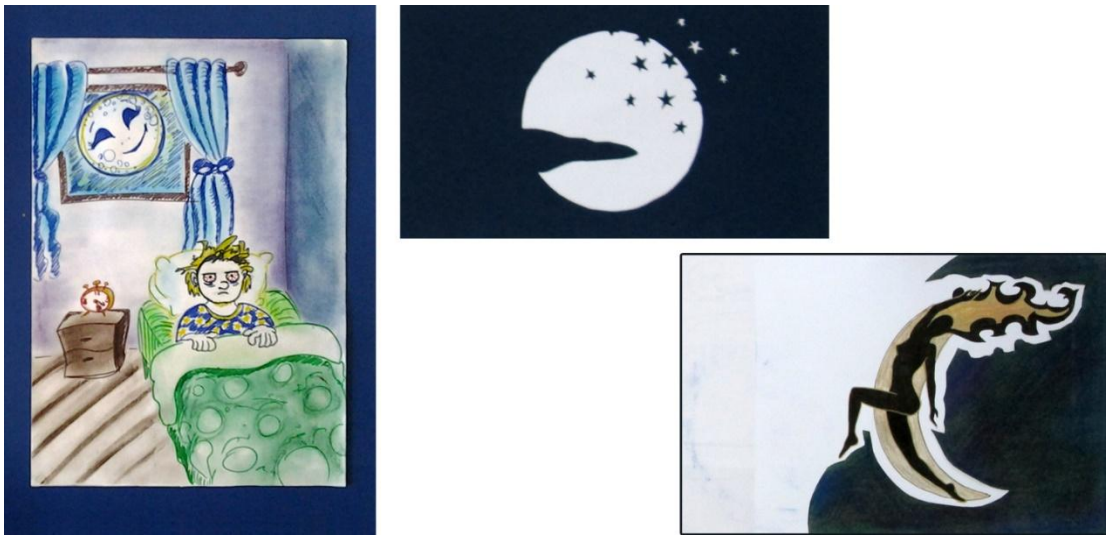

Figure 3. Compositions solely expressing "The Moon"

ISSN 1313-2571, Published at: http://www.scientific-publications.net

• Images interpreting the Sun or the Moon together like those on Figure 4. They are searching for cultural or emotional connection between the two celestial bodies although they are trying to express the existing contrast. Thus the viewers are not involved in experiencing the globes, but in s form of comparison.

Figure 4. Imaging “The Moon through the Sun” and “The Sun through the Moon”

2.2 Case Study 2: Analysis of Contrasting Semantic Objects – Antonyms

The aim of the second task is to assure the acquisition of semantic analysis, carried out by students on their own. More narrow meanings and concepts with higher contrast ratios, such as "moving - ceased", "tensed - relaxed", "opened - closed", "external - internal", "chaotic - in order" and other are suggested to be expressed graphically. The task takes the form of a small graphical test - design examination. It consists of independent imaging work for two hours. The conditions include graphic expressions of the first concept, another expression of the opposite term in a separate composition, and as a third one, a general image about possible "meeting" of these contrasting concepts or their mutual transformation.

To provoke frugality and accuracy of the drawing expression, some restrictions are made about the used items and elements, such as the number of lines or words on the paper. Still students are recommended the use of story-telling in the images.

In the composition developments referring these tasks we can observe the pattern of common drawing characteristics in the three stages of compositions, and all the similar colors, lines and scales. In parallel we are able to trace the artist search of tools for creating contrast. In the first composition on Figure 5, while exploring the couple "internal - external" contrast is expressed in very "conversational" way, but the final effect is obtained with the general forms used as "inside" and "outside". The central part of the student's work is expressing the contrast differently - imposed with strong "dramatic" diagonal, dividing both the drawing itself and also the whole panel of images - the peaceful sitting man in the left and the dynamic right silhouette. The other co-expressing tools include a set of elements with contrasting semantic meanings, that are guiding the observer through the compositions. These are the presence of

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artificial environment and a cage opposed to the open space and nature, the window-barrier versus the distant sun and so on.

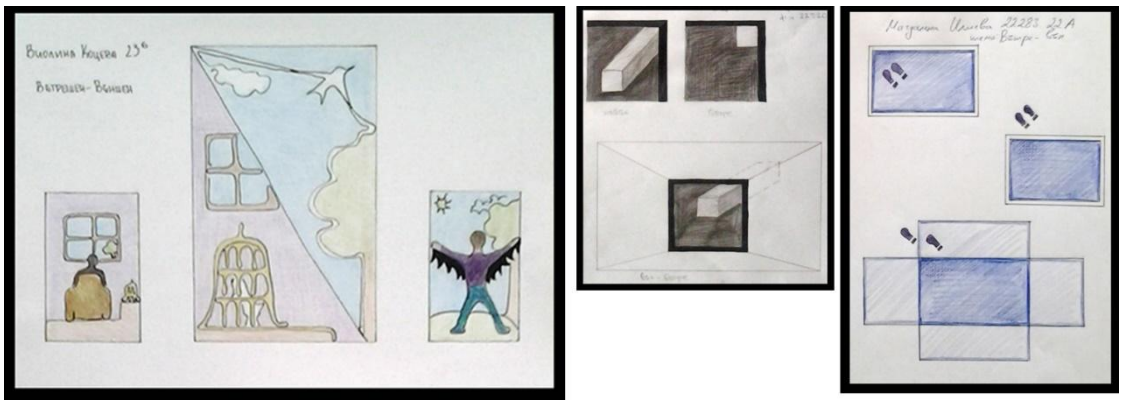

Figure 5. Compositions expressing “Outside - Inside” term couple

The next student is showing contrasting internal and external items, while creating dynamics through the hierarchy of square elements and fields. Finally the understanding of inside and outside is revealed as a matter of perspective: how we observe the positions of the elements.

In the third composition, the contrast ratio is exposed by breaking the boundaries between "inside and outside" and suggesting an "exit" from closed to open. The author uses only the illusion of a box and two footprints in each image.

The compositions expressing the couple of "moving - ceased" (Figure 6) also use various techniques. In the first set of compositions, the state of peace or movement is shown by the nature of the lines: the free movement expressed through free natural curves is suspended with severe urban objects – an artificial city environment. The unifying third part of the compositions absorbs both line types with gentle upward movement, and is a visual combination of nature and city or freedom and discipline. In the second example the same subject in the composition relies on "comic" storytelling arrangement while experimenting with contrast imaging of traffic and the environment. The idea is expressed by stars falling and then trapped on the ground, yet not wishing to separate. The author also experiments with the contrasting, concave and convex environmental forms.

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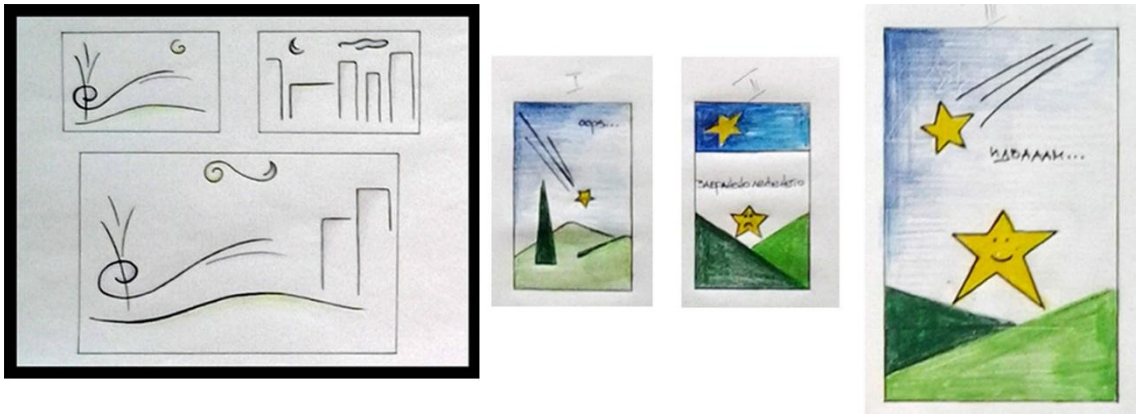

Figure 6. Compositions interpreting “Moving-Ceased” term couple

3. CONCLUSIONS

While explaining the design process Alexander (1964, p.26)), says: “We are searching for some kind of harmony between two intangibles: a form which we have not yet designed and a context which we cannot properly describe.” In this perspective precise defining of positions, needs, expectations and meanings is crucial for the design development, and all levels and forms of semantic encoding are powerful tools for achieving high quality composition of final products.

The aim of the simultaneous study of contrasting semantic objects is to facilitates the processes of semiotic analysis and visual coding performed by students. The author believes that creating storytelling images with their own context and coding system is an effective way to learn semiotic at some basic level and to prepare the students transfer their knowledge in more abstract way in the design process. The classes are also meant to provide intensive student participation and many options for interactive lesson conduction.

The resulting images show students high level of mastering semiotic concepts. The polls among students that were conducted in the end of the semester showed their positive attitude and great deal of appreciation towards the training classes. The enthusiasm and willingness shown when the attendees were interpreting and mastering the semiotic methodology was notable.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

FROM INTERDISCIPLINARITY TO CREATIVITY

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Abstract

The aim *of the paper is to display our experience of the concept we are applying in Theory of composition educational course for students in Engineering design at the University of Forestry – Sofia.*

The concept *can be summarized as follows: Interdisciplinary education generates creative thinking.*

The report will present *how specific knowledge coming from topical modern sciences that have become dominant in the rational knowledge of human psycho-physiology, perception, thinking and self-expression, can generate ideas and creative thinking in students when introduced in the teaching of design. For example, in the teaching course of Theory of composition - the source of such knowledge are the Humanities and interdisciplinary connection is made with psychology of perception, Gestalt psychology, semiotics, semantics, critics and others.*

The effect of this approach, consisting in the analysis of the overall success in the discipline and the activation of students' creative thinking will be presented in the ***conclusion****.*

Key words: Interdisciplinary education, Creativity, Theory of composition, Gestalt Principles, Semiotics

1. INTRODUCTION

In the paper will be presented student works on certain specific themes, generally imported from outside the field of design, from topical Humanities. These sciences are drivers of rational knowledge, human psychology, perception, self-expression and thinking. In teaching the course Theory of composition interdisciplinary bridges are built towards Humanities such as Psychology of perception, Gestalt psychology, Semiotics, Arts etc. The course includes two lectures: one concerns the relation of composition with psychology of perception, the other – the science of sigh systems and communication – semiotics.

2. PSYCHOLOGY OF PERCEPTION

The **Psychology of perception** lecture presents a synthesis of objective laws, mechanisms and senses of human perception. It provides basic knowledge of the means for manipulating the recipient's perception by the designer to achieve the sought idea and emotional impact. Students receive general notion on emotion and emotional impact of the design product on the perceiver. Special attention is paid on perception as the most fundamental cognitive act, act of selectivity, organization and transposition of structures from the outer to the inner human world. The understanding that perception occurs in two forms – knowledge and learning is elucidated. The ratiocination that to perceive something it has to be organized and structured is also explained. Students are taught that contemporary views on perceptual processes result from the development of psychology of perception, including the gestalt theory. In this aspect many concepts of composition as an instrument for behavioral manipulation have been changed.

The emphasis in this lecture is put on gestalt psychology. Gestalt is the spatial-visual form of the perceived objects. Essential postulate is that we perceive objects as a single entity rather than as a set of individual experiences. Perceptional organization occurs instantaneously, in the moment when we see or hear different images and forms.

Gestalt psychology proves that the analysis of consciousness should focus not on the individual elements but on the overall mental images. Putting the image in the center of attention ever since its origin, gestalt psychology has a great impact on the explanation of a number of theoretical formulations in arts, architecture and design. The lecture focuses on the application of gestalt in contemporary design experience.

Gestalt psychology operates with basic principles and laws, some of which are discussed in detail because of their direct relation to composition in arts. Gestalt psychology's main ideas, principles and laws remain popular and topical and are wide-spread in academic literature on the theory of perception and theory of composition. For example these are the law of grouping and the law of the figure and ground.

According to the law of figure-ground, we never see only shapes but dynamic figure-ground relationships. The figure is seen more clearly than the background. In the field of arts and design the law is applied in the composition where depending on the treatment of particular elements – figures or ground, the perception of the gestalt they constitute is influenced.

The law of grouping is used in composition to introduce harmony and hierarchy of elements. Gestalt psychologists focus on the most important factors which determine grouping in the cognitive process. Such are the principles of *proximity, similarity, good continuation, closure, symmetry, uniform connectedness, common fate.*

Special emphasis is put on the paradoxes in the organization of perception caused by the figure-ground relationship. Such are *the impossible figures, camouflage, optical illusions, and dual images*. Their application in art and design is specified.

Ways for interpretation in art and design of specific effects in perception such as *phi phenomenon, persistence of vision, simultaneous contrast, and insight* are also identified.

2.1 "Application of Gestalt Principles" Educational-Scientific Conference

In 2011 was held an educational-scientific conference on the theme ***"Application of Gestalt Principles in Design"***. In their papers students analyzed the essence of gestalt principles and their application in design creativity.

ISSN 1313-2571, Published at: http://www.scientific-publications.net

Figure 1. Examples of conference posters

In the best posters announcing the event, awarded after a competition, students demonstrated their creativity and the ability to connect graphic design with the conference theme and to express the meaning of signs in gestalt principles. We see the implementation of impossible figure, dual images, optical illusions, ambiguous figure-ground, etc. Connotations for assemblage, furniture, fittings – hence design can be found as well. *Figure 1*

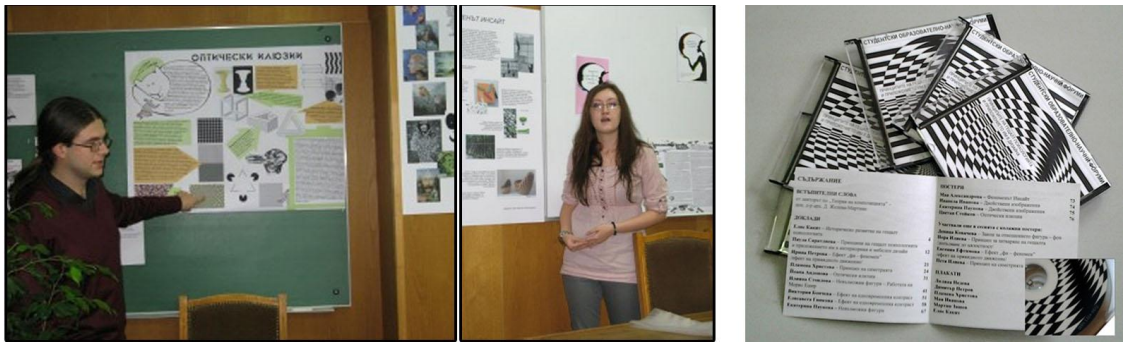

Figure 2, 3. Two of the participants in the poster session;

CD "Student scientific-educational forums. Materials of educational-scientific conference: "Application of Gestalt Principles in Design" 2011

Materials from the conference were published on a CD, which opens a series titled “Student Scientific-Educational Forums”. *Figure 2, 3*

2.2 Figure-Ground Exercises

On the theme of **gestalt principles in design**, at the beginning students are given abstract compositions. They have the choice of visual means of expression, but the restrictive conditions we set turn the attention towards learning the specific elements, principles and laws of composition. Thus different problems are more profoundly analyzed, practical knowledge is obtained and an eye for composition of visual elements in emotional works is developed.

The objective of the first assignment is related to the study of the dynamic figure-ground relationship. In order to focus on the problem itself, the task is simplified to the highest degree – a letter of the alphabet which students design with their own style and type plays the role of the figure. The letter should occupy 50% of the space in the format. Students experiment with the resulting negative shapes in the creation of new figural compositions and camouflage patterns. *Figure 4*

Figure 4. Exercises on “Figure-ground” and “Camouflage”

2.3 Laws and Principles of Grouping Exercises

The tendency of human perception to group elements which are adjacent, share common characteristics, are arranged consecutively on a straight or curved line, and the tendency of the mind to detect and add missing parts and perceive the form in its entity if it is incomplete or a part is missing are the gestalt principles which students work on in a series of assignments.

Each of these principles has to be interpreted using the simplest compositional element – the point. The principles must be applied in an abstract assignment but the aim is the mastered techniques to be used in the future practice of the students in order to reduce the complexity of the compositions while maintaining visual interest and diversity; to focus on the relationship between the building blocks and to preserve the integrity of the composition; to direct deliberately the gaze and to facilitate the compositional perception by the observer. *Figure 5*

ISSN 1313-2571, Published at: http://www.scientific-publications.net

It was experimented with the alteration of the brief to enable the creation of artistic compositions based on a selected gestalt principle or perception effect. Students were encouraged also to present examples of these principles from the design practice.

Figure 5. Exercises on gestalt principles of grouping: “Similarity”; “Good continuation”; ”Common Fate”; “Closure”

3.SEMIOTICS

The lecture **Composition in the Context of Semiotics** refers to the model of contemporary postmodern science – semiotics. Semiotics is the general code of reality, or rather it is the way in which reality exist for us, its anthropological modus. The world is permeated with symbols, not to say that in fact consists only of symbols – says the prominent semiotician Thomas Sebeok (Сибиък, 1997).

Semiotics is the study of signs and sign systems used by people in various areas of living and public life including the field of art and design. This is a science for communication between humans through signs. The sign is a material, sensually perceptible object; it is an index, substitute or representative of a phenomenon that is not limited by nature. The sign is associated with the processes of learning and communication, every communication happens through signs, united in a sign system.

Iconic signs are copies of the designated objects. They are in a state of isomorphic correspondence with what they represent.

Indexical signs in visual-figurative form represent abstract ideas and concepts. As explained by Chandler (2007), the relationship between signifier and signified is recognized on the basis of similarity or causality.

Symbols (conventional signs) are associated with the signified based on particular terms of agreement or established rules.

This classification by Peirce allows some blurring of the boundaries between different types of signs depending on the level of conditionality and similarity.

Lotman (Лотман, 1973) proposes a simpler classification according which “Signs are divided into two groups, conventional and iconic. In symbols link between expression and content is not internally motivated.” Pictorial or iconic sign suggests that meaning is the only natural, intrinsic expression. The most common case is the drawing.

In the sphere of sign studies in art there are other classifications such as the visual signs in design (signs perceived by sight). Semiotics is studied at different levels reflecting different “levels of abstraction”. Syntax studies signs and relationships between signs; semantics studies signs and their relationship to the “outer world”, to the designated object; pragmatics studies signs and their relations with those who

use them, the relationship between signs and people. Pragmatics examines the perception of signs in specific social and historical conditions, how signs emerge, influence and serve as a means of social communication. All three levels are connected.

That part of the semantic information that is similarly decoded by most of the perceivers and which lies in the sign based on agreement, structural similarity or causal connection with the denotatum (the certain object to denote) is called denotation. Connotation is that part of the semantic information that is derived through associations in human psyche. Connotation is excluded from science – where uniformity is searched, but in the field of arts it is desirable and predefined, or on the contrary – unwanted and unintended consciously.

Special place in the lecture take the mechanisms of designation, semantization and coding in design. Designation refers sign to the mental equivalent of the designated object. In arts and design it means the expression of the concept of the object. The process of signification in visual arts is a process of semantization or saturation with meaning of the image. The transmitted information by the image is coded.

Coding is one of the most effective design tools. It represents the transformation of semantic information into a sign or combination of signs. Codes can be symbols, shapes, colours, sounds, etc.

Decoding is the reverse process – reading the semantic information of the sign or combination of signs based on a specific code.

The lecture demonstrates the specific coding of ideas in architecture and design, using examples by Rudolf Arnheim (Арнхейм, 1984, pp174-175) He explains the expressive embodiment of the functional issues in the form illustrated by several types of ancient Greek vases. He finds them more simple and comprehensible than architectural structures where form "translates" the functionality of the object into expressive language captured by perception. The result is a "visual analogy" of the utilitarian function. Regarding the understanding, semantization and coding of functions to achieve expressive furniture forms, Arnheim cites Mies van der Rohe's well-known Barcelona chair. He shows the saturation of form with meanings through functional code. Coding can be analyzed likewise based on other codes and other channels of perception – tactile code, acoustic code, tactile code etc.

Students are assigned a homework essay on the theme *"Analyze the semantics of the throne"*. The aim is to learn how to differentiate the semantic information embodied into the ordinary chair from the special one – the throne, and to decode specific meanings of the selected throne. More complicated is the essay given at the end of the course Theory of Composition – *"Analyze and explain how the compositional and emotional effect in Esher's woodcut print "Sky and Water" is achieved"*.

The topics of the essays are directly related to the lectures. The aim is to develop students' ability to present verbal analysis, thoughts and ideas, to reflect on the acquired interdisciplinary theoretical knowledge and realize their direct use in design practice.

Briefs assigned as a kind of ongoing control on the theme of the interdisciplinary link between semiotics and composition are*: "Analyze the semantics of "Azure" and "Expectation" furniture by young Bulgarian designer Gentcho Goev"*; *"Describe the meanings that should be encoded into a baby cradle or a crib. What principles of composition will you use to achieve them?"* In the first case the decoding of meanings deliberately set by the author into the design product is concerned, the deciphering of the design text, while in the other case – the creative application of the acquired knowledge is concerned, the embodiment and coding of semantic information in design.

3.1 Symbol Exercises

Students are assigned to design a graphic symbol of the sun or the moon, expressing their notion of the chosen object through coding a specific emotional meaning. For this purpose each student makes a verbal description of the characteristics and associations that the sun or the moon bears for him. The challenge is that they must convert this information into appropriate graphic elements while observing the requirement to use only black, white and one chromatic colour. In this way the emphasis is further put on interpretation and stylization of subjective personal meanings which should be subsequently visible and easily readable in the symbol each student has created. How successfully the task has been performed is determined at the end of the class in a critical discussion when the reverse process of reading the coded semantic information by all other students is applied. Creative modification of the task is to make artistic composition bearing the relevant semantic meaning but in the context of a self-contained expressive system offered by each student. *Figure 6, 7*

Figure 6, 7 Symbol exercises – “The sun” and “The moon”

3.2 Lines as Means of Communication Exercises

In other semiotic task students receive a couple of words with contrasting meaning (for example abundant-scarce; irritating-soothing; quiet-loud; impulsive-monotonous; successful-decaying; passionate-indifferent; interesting-boring; transient-ephemeral etc.) These antonyms should be presented graphically using only lines as an expressive mean. The goal is to understand line’s different meanings depending on its direction, thickness and variation of its characteristics and respectively to learn how to convey specific mood and emotion.

In a design-examination on the theme of the relationship between semiotics and composition was assigned to do quick sketches of specific scenes expressing given pair of words and relations between them. *Figure 8*

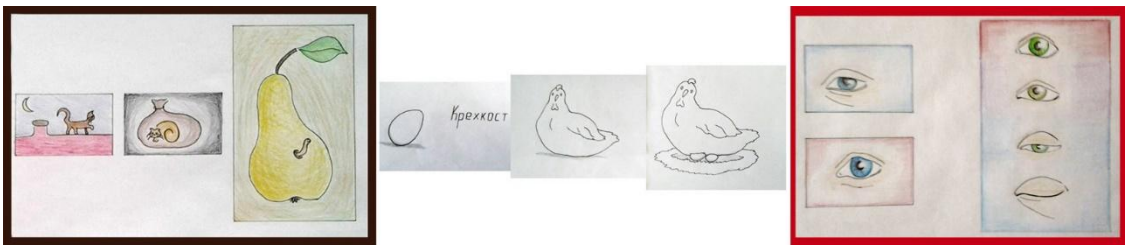

Figure 8. Sketches on the expression "inside-outside", "protector and protected”, "tense and relax"

3.3 "Semiotics and Design" Abstract Readings

In 2012 students organized abstract readings on the theme "Semiotics and Design". A poster contest of the educational scientific forum was held. The theme of the event was interpreted in the posters as meanings like "heart-love-design-iconic furniture", "from the idea – to the realization, from beginning – to the end" or "day and night, light and darkness, sun and moon, nature and life", dialectic relations, rhythm and symmetry, balance and beauty were coded. *Figure 9*

Figure 9 Examples of posters

Various aspects of the artistic composition in the terms of semiotics were reflected in the presented papers in this forum. Among the most interesting were: "Text and pictograms signage of information", Metaphor in design", "Semantics and style", "Analysis of positive connotations in interior design", "Cultural traditions as a code", "Coding the dynamics and balance in furniture design".

The program included also a quiz with questions on various topics such as "Metaphors in furniture design". When displaying images of iconic furniture items students had to answer the questions – what is the metaphor, who is the author, what is the name of the chair?

4.Conclusion

Introducing the knowledge about human perception psychology, the sign nature of communication, the application of some manipulation methods on human perception and behavior, opens new perspectives in the field of design composition. The interpretation of this knowledge borrowed in design process from Gestalt psychology and semiotics, unlocks unexpected doors in imagination realms.

In 2012, our students competed to be presented with their achievements into the organized in cyberspace "Hall of Fame". This unique virtual exhibition was also visible on screens in the corridors of the University of Forestry, which evoked deserved pride in the authors and nourished their self-esteem and aspirations for further creative expression.

In the interviews with our students that we did at the end of the academic years 2011/2012 and 2012/2013, we found general satisfaction of their accomplishments and understanding of the importance of the training in Theory of composition. Our survey shows high attendance rate, spirit of competition and artistic creativity.

We can generally conclude – there is increased interest by the students in the Theory of composition course. There is an atmosphere of addiction to the design profession. In our opinion the positive effect of applying the interdisciplinary approach is reflected in the resurgence of students' creative thinking that led to a high level of overall success in the discipline.

Through the organized events students were involved in the mainstream of modern science, they acquired knowledge by themselves and discussed it vigorously with their colleagues. The best students received certificates and participated in international design competitions, workshops, competitions and European grants. Some of them have already received international awards.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

MODELS OF PROCESSES TO ORGANIZE LEARNING FOR THE COMPETENCE-ORIENTED EDUCATIONAL PROGRAMS AT THE LEVEL OF DISCIPLINES

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Abstract

Considering methodological aspects of use of process approach to the organization of educational process at the level of discipline for the competence-based educational programs. Describing the model of organizing the learning, in conjunction with PDCA cycle. Using examples of processes' diagrams, developed based on PBMN notations. Advantages of process approach to quality management in learning are defined.

Key words: *the process approach, modeling the processes, the competence-oriented approach in education, PDCA cycle, BPMN notation, education quality management, software of modeling of processes.*

1. INTRODUCTION

Since 2011 institutions of higher education in the Russian Federation began preparing graduates with Bachelor's and Master's degrees in educational standards according to the competence-based approach, which emerged through the evolution of development of educational systems. Such transition isn't formal; it demands from each participant of educational process – from the head of an educational program to each teacher – an essential revision of the content of education, models, methods and technologies of training, development of new control and measuring systems and means for monitoring and assessing of the process of forming the competences.

Complexity of transition to the new standards is caused by specifics of competences, which is noted in publications of foreign and domestic researchers in the field of pedagogical measurements [6, 7, 10, 12, 13]:

– competences are multifunctional (the high-level description of competences demands the generalized formulations which include multiple functions, provided with the competences);

– competences are interconnected and interdependent (level of development of one or several competences influences formation of other competences; interdependence of competences demands development of hierarchy of competences; interrelations of competences allow to unite competences in clusters);

– competences are multifaceted (formation of each competence is carried out in the course of development of a number of disciplines, which demands development of interdisciplinary means of an assessment of competences);

– competences are meta latent (properties and characteristics of competences and process of their formation can be latent without manifesting itself explicitly, therefore, definition of the indicators characterizing the level of formation of competences, demands special approaches and methods);

– manifestation of competences has the delayed characteristic (the assessment of competences can be carried out only after the end of training and after a graduate has been engaged in a professional activity for a certain period of time, and during the training process the formation of competences can be estimated);

– interpretation of the grades of development levels of competences depends on the condition of the multiple-factor analysis and multidimensional scaling.

Considering specifics of competences, in order to transition to the new educational standards each teacher (professor) of higher education institution must carry out "reengineering" of educational process for each discipline taking into account requirements and specifics of competence-based approach.

The purpose of writing the given article in attempt of structuring and describing the types of activity of the teacher within the organization and conducting educational process on concrete discipline upon transition to new educational standards on the basis of process approach.

2. METHODOLOGICAL ASPECTS OF USE OF PROCESS APPROACH UPON TRANSITION TO THE COMPETENCE-ORIENTED EDUCATIONAL PROGRAMS AT THE LEVEL OF DISCIPLINES

Introduction of competence-based approach to training demands considerable changes in all fields of activity of the teacher of the higher education institution, including formation of the content of discipline; preparation of methodical materials; choice and application of the corresponding methods, forms and tutorials; development of estimated means and forms of control of theoretical knowledge, practical abilities and formation of professional competences. Realization of problems of reengineering of educational activity and ensuring required quality of formation of professional competences of students is possible on condition of application of process approach.

Process approach is one of eight principles of quality management [4] which declares that "the desirable result is reached more effectively when activity and appropriate resources operate as process" [4, p. 4].

There is a set of definitions of process, in particular, in standards on quality management "any activity in which resources for transformation of entrances to exits are used, can be considered as process" [4, p. 6].

In this article as a process we will understand the structured set of the interconnected and interacting types of the activities, transforming entrances to exits and directed to achieve a specific goal. Let's consider that: 1) process has one or several entries and will transform them to the defined, planned exits; 2) process includes control and management devices necessary for reliable result with satisfactory requirements.

The accepted definition will be coordinated with the concept of process approach: "systematic definition and management of processes applied by the organization and especially interaction of these processes can be considered as "process approach" [4, p. 6].

Considering that process is always purposeful, it has to include the analysis of requirements and formation of goals, monitoring, control and an assessment of current state of process, elaboration of

corrective actions in case of a deviation of indicators from admissible values. Therefore any process includes two components: direct result creation (production of an exit) and management of result creation (production of an exit) [2, 5]. It agrees ITIL management of process is activities for planning and process ordering for the purpose of its effective, productive and coordinated implementation.

According to the concept of process approach the model of the organization of training at the level of separate discipline upon transition to new educational standards has to contain the processes coordinated with a cycle PDCA. Quality management cycle (PDCA) includes: Planning (Plan) – the description of what needs to be done, when it must be done, who has to do it, how it should be done and by means of what; Performance (Do) – performance of the planned jobs; Check (Check) – definition of level of achievement of desirable result when working; Adjustment (Act) – performance of updating of plans taking into account information received at the Check Stage[2].

Figure 1 demonstrates the model of the organization of training at the level of a separate discipline with use of the process approach, coordinated with the cycle PDCA is shown.

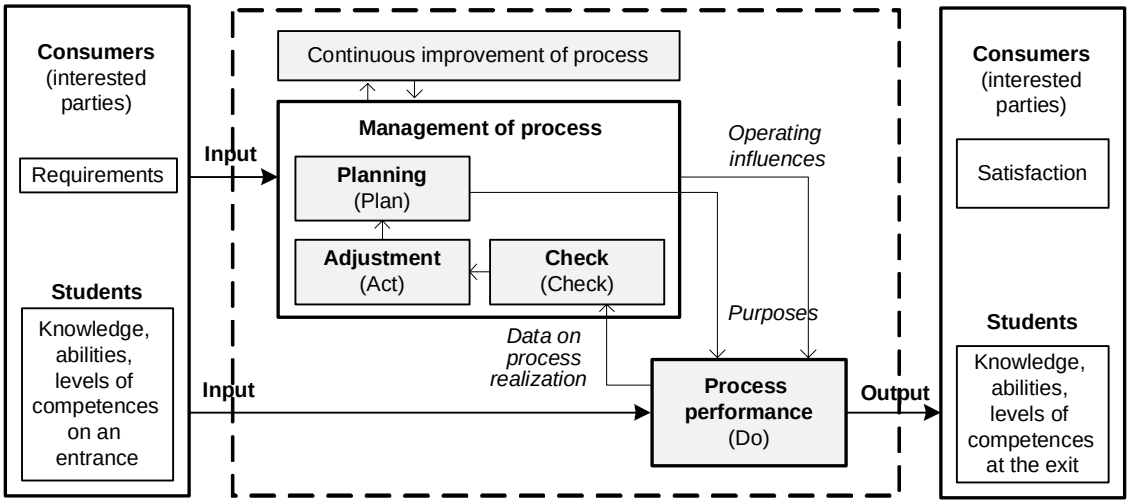

Fig. 1. Model of the organization of training
at the level of separate discipline with use of process approach

The advantage of process approach is the opportunity to exercise the current control based on the communication between separate processes in system of processes, and also on their association and interaction.

The main characteristics of process are:

- measurability (each process has to have the system of indicators and metrics);
- concrete, certain results;
- orientation toward consumer requirements;
- initiation of process by a specific event.

When using process approach it is necessary to consider requirements which are made to processes [2,

4]:

– processes have to be documented and regulated (which means the interconnected sequence of activities: they have to be defined; documented; controlled; regulated; measured);

– process owner must be identified for each process;

– the purposes of processes have to be defined in terms of sphere of activity of the organization, correspond to the purposes and strategy of the organization and to be measurable;

– the results of the work of process have to meet the requirements and to the norms established in a field of activity of the organization.

The considered characteristics of processes and their requirements, have to be considered at the training organization on disciplines of the competence-based focused educational programs.

3. DEVELOPMENT OF MODELS OF PROCESSES OF THE ORGANIZATION OF TRAINING FOR THE COMPETENCE-BASED FOCUSED EDUCATIONAL PROGRAMS AT THE LEVEL OF DISCIPLINES

Upon transition to the new educational standards the main accent is made on the end results of training, on degree of their compliance to purposes, on technologies of formation of competences and criteria of their grading. Considering that experience of the solution of these tasks in the higher education is still too small, there are no established, scientifically worked techniques and technologies, each teacher is faced with a complex challenge of preparation and conducting the training constructed on the basis of competence-based approach, within a concrete discipline.

To identify and structure the types of jobs, which are required to be executed by the teacher during reengineering of the activity during the organization and conducting training according to the new standards, it is necessary to apply methodologies and methods of modeling of processes.

In this research as a simular of processes the notation of BPMN (BusinessProcessModelandNotation) developed on the basis of methodology of object-oriented modeling and the analysis is used. For modeling SparxSystems firm EnterpriseArchitect (EA) was selected as an instrument software, which is a powerful tool of visual modeling and supporting notation BPMN 2.0 (2011).

According to conceptual model of the organization of training at the level of separate discipline with use of process approach (fig. 1) it is required to develop system of the models, allowing to describe the purposes, tasks, the contents, roles, indicators of processes.

The technique of the organization of training at the level of separate discipline with use of process approach includes the following stages.

Stage 1. Process description (information model of process).

The description of process is carried out according to the conceptual model of the organization of educational process at the level of separate discipline (fig. 1), recommendations of the service management [2, 3, 4] and represents information model of process. The example of information model of process for discipline "Management of the project of information system" a framework of the main educational program "Applied informatics" is presented in Table 1.

Table 1. Information model of process

№	Characteristic	Description
1.	Process name	The training organization of discipline "Management of the project of information system" (the competence-based focused educational program)
2.	Process purpose	Structurization and methodical support of all activities of the teacher at the organization and conducting training on discipline – as a basis of ensuring efficiency of formation of professional competences of students
3.	Process tasks	Definition of methods and means of planning of a course. Definition of methods, forms, means of conducting training. Definition of methods and forms of measurement and control of educational process and results of training. Definition of methods of the analysis and assessment of results of training. Decision-making for training improvement at the level of discipline.
4.	Process politics	The training organization of the discipline has to be carried out taking into account the requirements and the norms consolidated in: federal state educational standards (FSES), academic curricula (AC), provisions and the normative documents accepted by educational institution.
5.	Procedures (subprocesses)	Planning of a training course. Carrying out a training course. Measurement and control of indicators. Analysis and assessment of productivity of process of training. Making decisions on improvement of process of training.
6.	Process initiation	According to curricula: course 2, semester 4
7.	Realization terms	Beginning: first week 4 semester. Termination: last week 4 semester.
8.	Process indicators	Indicator of level of professional competences of pupils for the beginning of studying of a course. Indicator of level of professional competences of students at the end of studying a course. Indicator of discipline teacher satisfaction with the level of competences of students, providing formation of same or interconnected / interdependent competences. Indicator of employers' satisfaction with level of competences of students. Indicator of students' satisfaction with educational process. Indicator of an external assessment of level of professional competences of students.

ISSN 1313-2571, Published at: http://www.scientific-publications.net

9.	Interfaces and process communications	Entrance streams: - requirements and norms to the discipline, fixed in federal state educational standards (FSES), academic curricula (AEP), in provisions on educational and methodical activity at university; - knowledge, abilities, levels of professional competences of pupils for the beginning of studying of a course. Output streams: - knowledge, abilities, levels of professional competences of pupils at the end of studying of a course.
10.	Process owner	Teacher of a course (Surname, name)
11.	Roles in process	Teacher of a course. Teachers interconnected / interdependent disciplines. External experts in relation to this course.
12.	The additional data	Preparation direction: "Applied informatics". Qualification: Bachelor .

From above listed characteristics of process the process owner's functions should be noted, in this case is a teacher of a course, whose main function is ensuring compliance of process of training in the established norms and requirements. Within this responsibility he carries out:

- process design;
- documenting and publication of a process;
- definition of indicators of efficiency (KPI) for an assessment of productivity and rationality of a process;
- assessment KPI and actions by results of an assessment;
- increase of productivity and rationality of process;
- participation in formation of the plan of improvement of process;
- the solution of a controversial questions and difficulties at process realization;
- awareness of a process participants;
- regular assessment of a process components;
- interaction with heads.

Stage 2. Creation of the contextual chart of a process.

In order to document and regulate the processes it is necessary to use models. Development of models begins with the contextual chart of process – the chart of the top level which defines the sequence of performing actions or stages (fig. 2).

Considering the characteristics of process, caused by process approach, such as, measurability and a

certain result, it is necessary to reflect in model of the top level not only sequence, but also the purposes, rules of performance and key indicators of each stage.

On work flow charts in the notation BPMN of process details are displayed by means of responsibility areas. In the contextual flow chart of training it is expedient to allocate such areas of responsibility, as the purposes, rules, indicators (fig. 2).

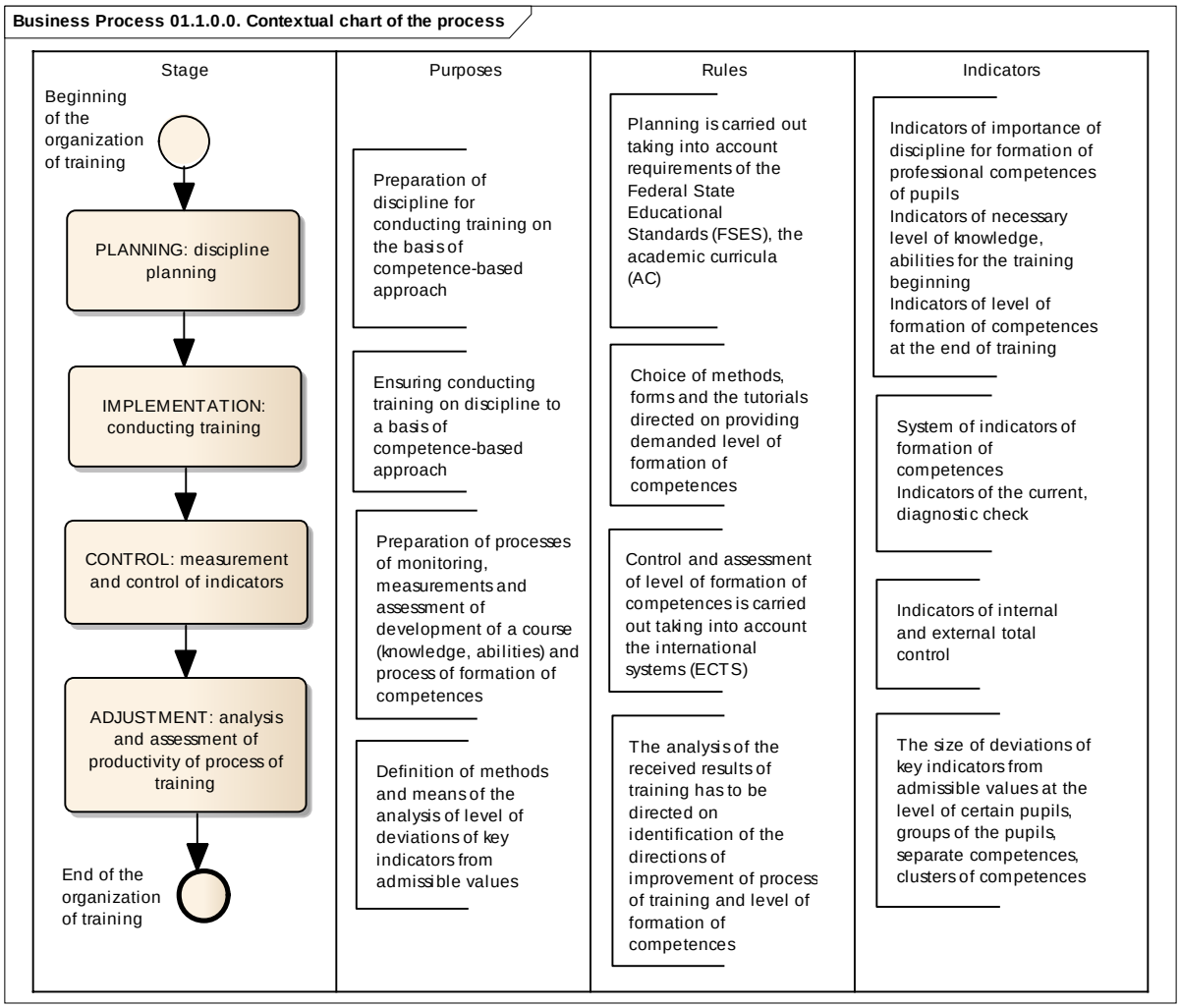

Fig. 2. Contextual chart of the process

Stage 3. Development of flow charts.

As each component of the contextual chart represents a multipurpose set of works in the form of stages, it is expedient to consider them as separate processes, and then to describe their interrelations.

Thus, it is required to develop flow charts for the processes:

- Planning: discipline planning;

- Implementation: conducting training;
- Control: measurement and control of indicators;
- Adjustment: analysis and assessment of productivity of process of training.

3.1 . Process model "Discipline planning".

When developing the process model of “Discipline planning", and considering the requirements for measurability and controllability of the processes, the field of the chart should be broken into the following areas of responsibility: entrance objects; output objects; role: teacher of a course; indicators (fig. 3).

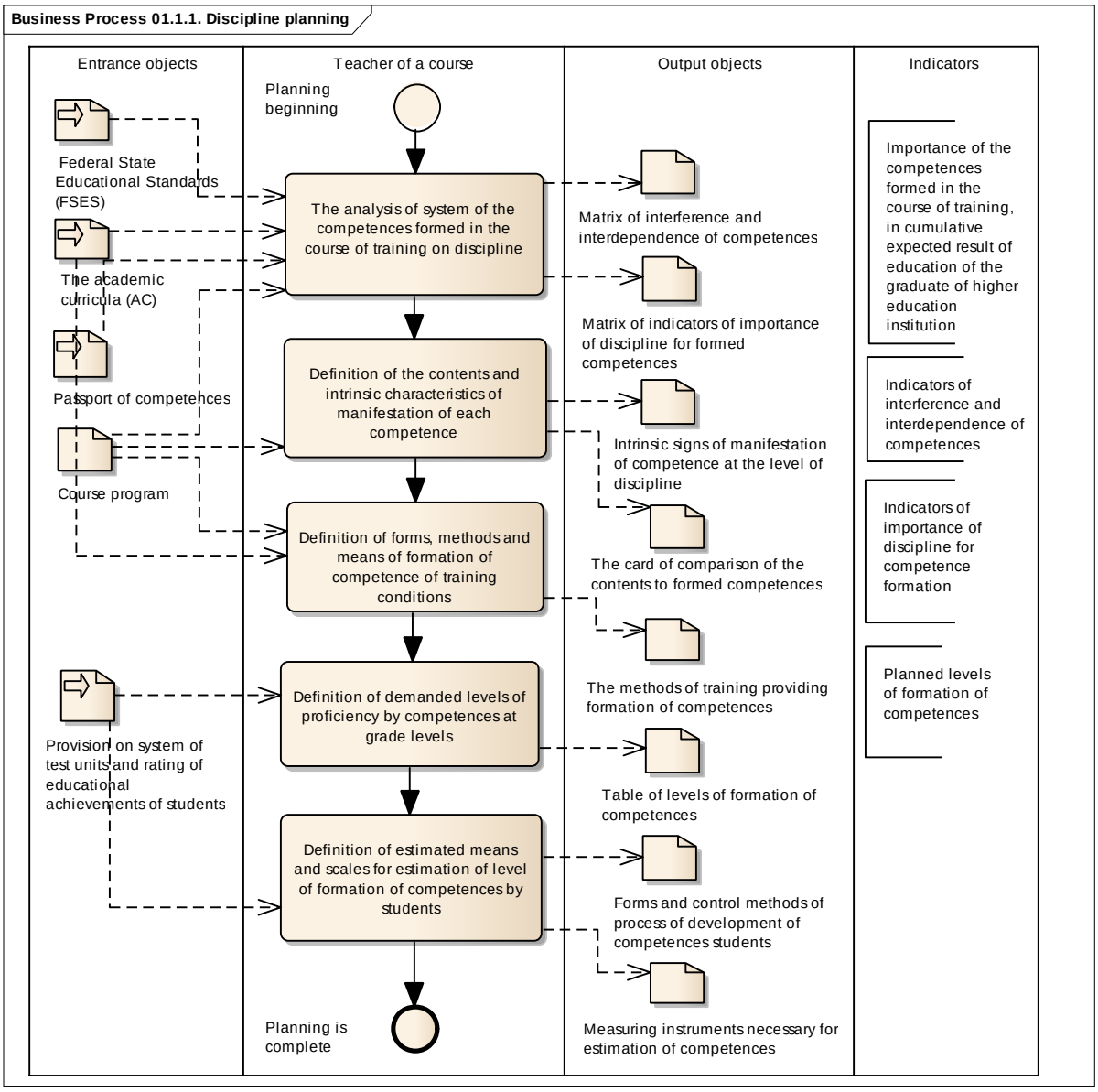

Fig. 3. Flowchart of the process "Training planning"

ISSN 1313-2571, Published at: http://www.scientific-publications.net

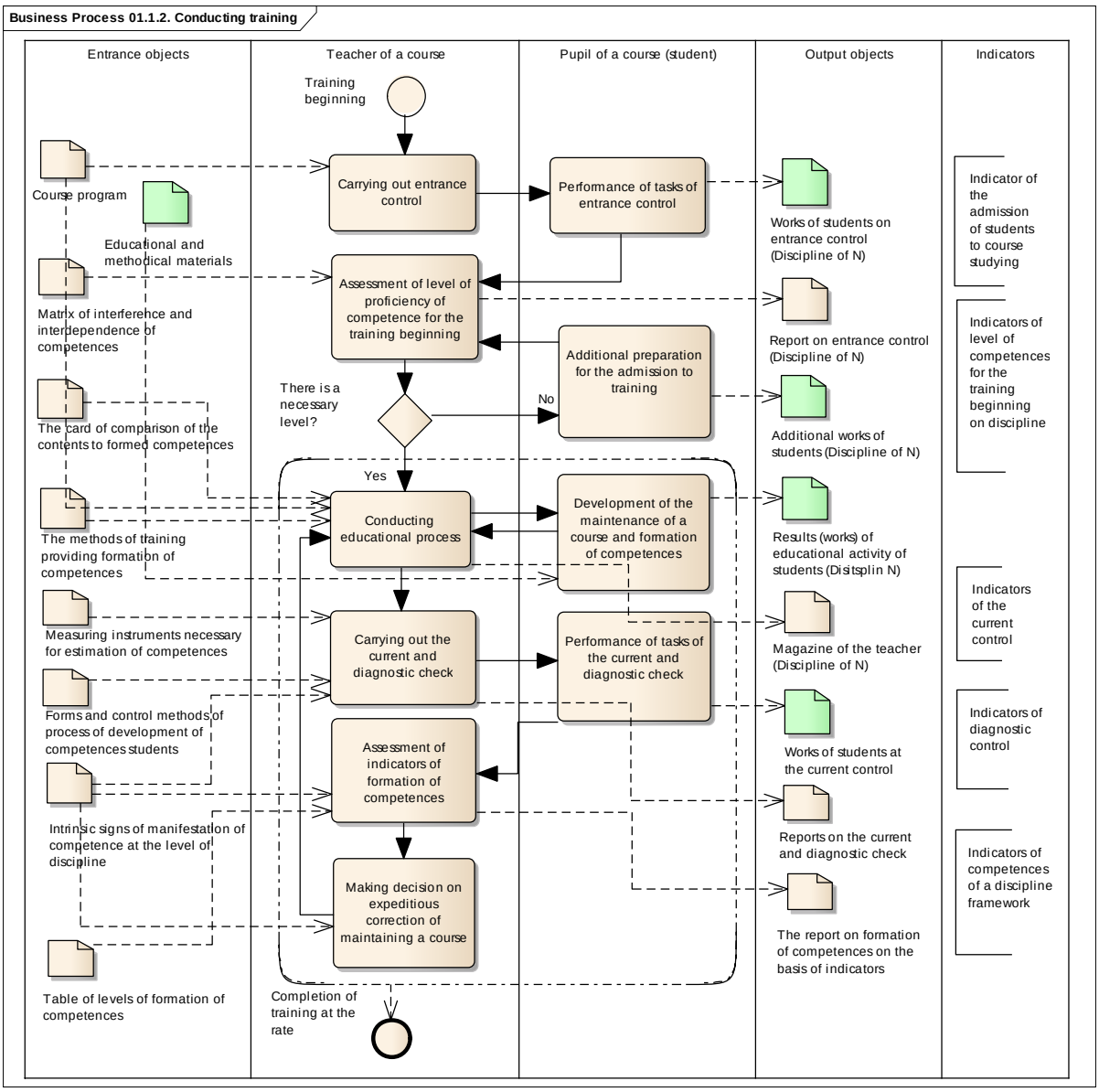

Fig. 4. Flowchart of the process "Conducting training"

The main stages of the process:

1) the analysis of system of the competences, being formed in the course of training on discipline (output objects: matrix of interference and interdependence of competences; matrix of indicators of importance of discipline for the forming competences);
2) definition of the contents and intrinsic characteristics of manifestation of each competence (output objects: intrinsic signs of manifestation of competence at the level of discipline; the map of comparison of the contents to formed competences);

3) definition of forms, methods and means of formation of competences of training conditions (output objects: the methods of training providing formation of competences);
4) definition of required levels of proficiency in each competence (output objects: table of levels of formation of competences);
5) definition of estimated means and scales for estimation of level of formation of competences (output objects: forms and control methods of process of development of competences students; measuring instruments necessary for estimation of competences).

3.2. Process model "Conducting training".

Realization of training demands vigorous activity from both teacher and student, therefore when developing model of process "Conducting training", the chart should be divided into the following areas of responsibility: entrance objects; output objects; role 1: teacher of a course; role 2: pupil of a course (student); indicators (fig. 4).

Primary activities of the teacher in the course of conducting training:

1) carrying out entrance control;
2) assessment of level of proficiency in competences of each student at the beginning of the training course;
3) conducting educational process;
4) carrying out the current and diagnostic controls;
5) assessment of indicators of formation of competences in pupils;
6) making decisions on expeditious correction of maintaining a course.

Primary activities of students in the course of training:

1) performance of tasks of entrance control (in case of need – additional preparation for the admission to training at the rate);
2) development of the maintenance of a course, performance of the practical tasks directed on formation of the corresponding competences;
3) performance of tasks of the current and diagnostic check.

3.3. Process model "Training control".

Measurement and control of the training process indicators are carried out directly by participants of realization of the training process (internal control), and by external experts (external control). Therefore when developing model of process "Training control" the chart should be divided into the following areas of responsibility: entrance/output objects; role 1: teacher of a course; role 2: participants of external control; indicators (fig. 5).

Primary activities of the teacher in the course of control:

1) formation of the schedule of carrying out estimated actions;
2) control and assessment of level of formation of competences of pupils;
3) integrative assessment of level of formation of competences in pupils at the level of discipline;
4) assessment of level of formation of competences of pupils with use of dynamic approach at the

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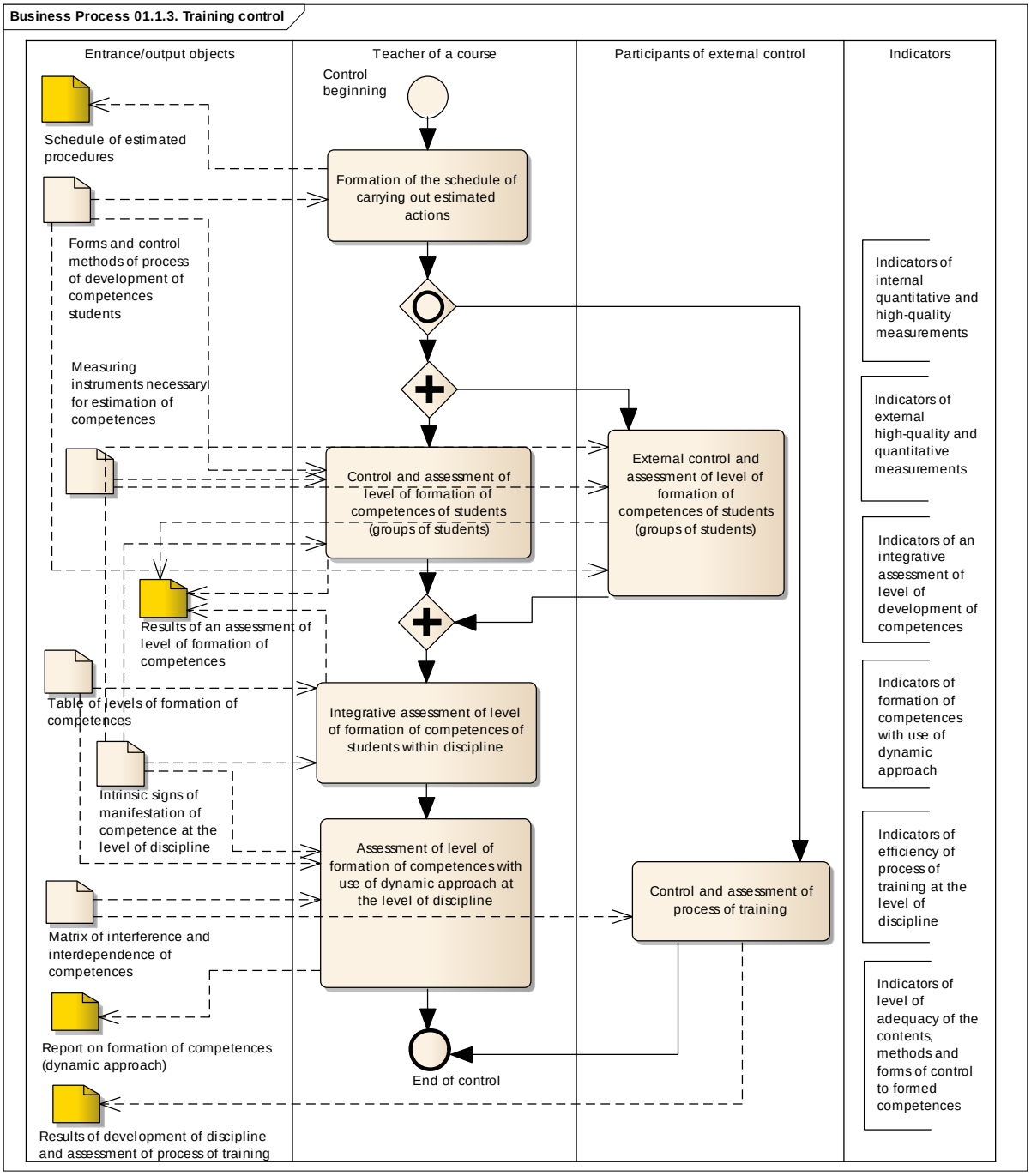

Fig. 5. Flowchart of process "Training control"

5) level of discipline.

Primary activities of participants of the external control:

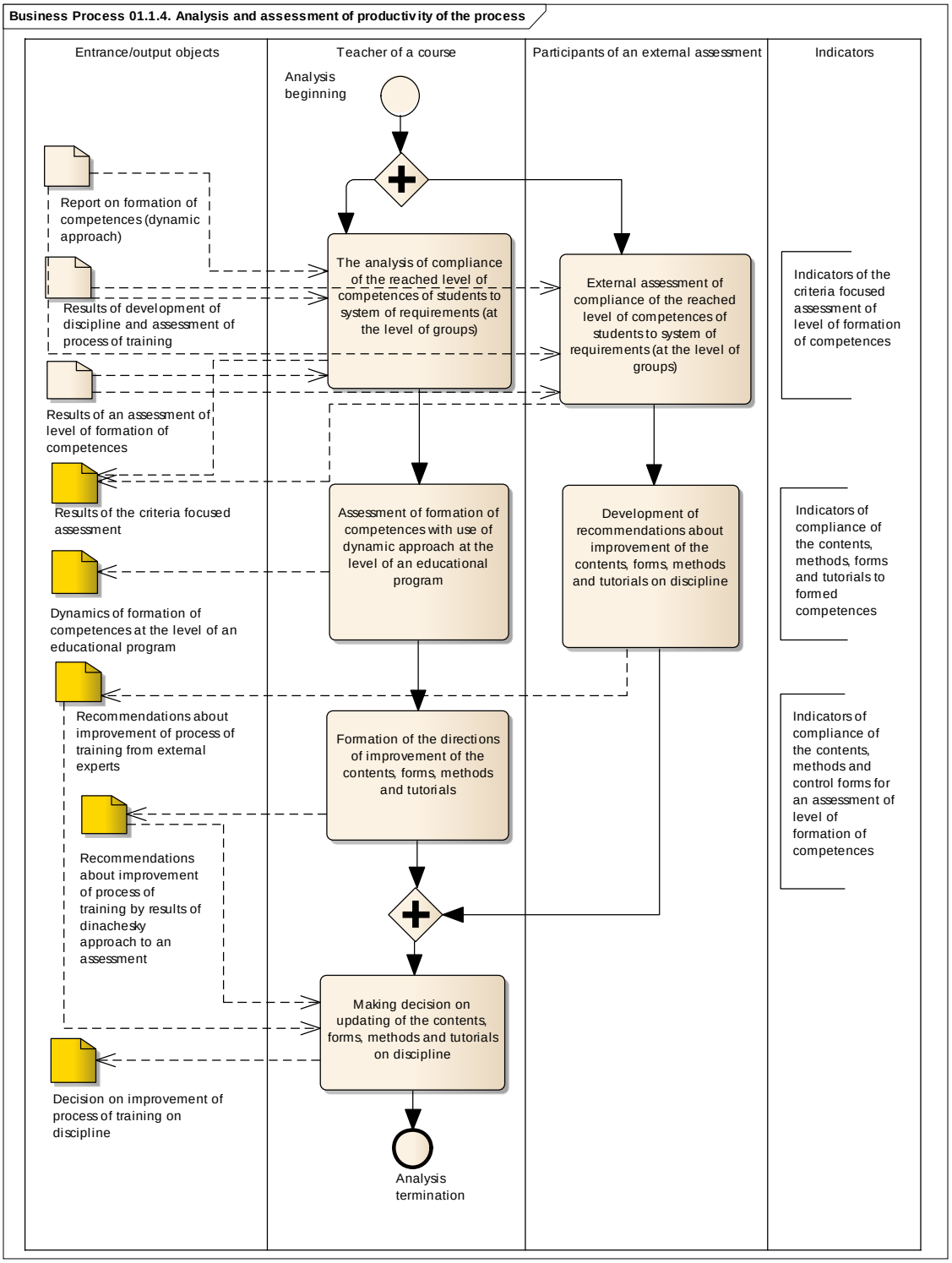

Fig. 6. Flowchart of process "Analysis and assessment of productivity of process"

1) external control and assessment of level of formation of competences in pupils;
2) control of the training process.

3.4. Process model "Analysis and assessment of productivity of the process".

The analysis of productivity of the training process is made for the purpose of identification of the directions of improvement of the training process and formation of competences in students on the basis of an assessment of the key indicators deviations of processes from permissible values.

When developing model of process "The analysis and an assessment of productivity of process" the chart should be divided into the following areas of responsibility: entrance/output objects; role 1: teacher of a course; role 2: participants of an external assessment; indicators (fig. 6).

Primary activities of the teacher in the course of the analysis and an assessment of process productivity:

1) the analysis of compliance of the reached level of competences of students with system requirements;
2) assessment of formation of competences with use of dynamic approach at the level of an educational program;
3) formation of the directions of improvement of the contents, forms, methods and tutorials;
4) making decision on updating of the contents, forms, methods and tutorials on discipline.

Primary activities of external participants of the analysis:

1) external assessment of compliance of the reached level of competences of students with system requirements (at the level of groups);
2) development of recommendations about improvement of the contents, forms, methods and tutorials on discipline.

4. CONCLUSION

Utilization of process approach during training organization allows:

– increase controllability of educational process on the basis of identification and structurization of the types of activity, the necessary entrance data, used resources and expected results;

– create the system of process indicators, methods of their measurements and to carry out different types of monitoring to provide a required level of training quality;

– maintain training quality, since the processes, structured according to a cycle PDCA, become measurable, due to the possibility of development of norms and requirements for realization of each stage and a type of activity.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

INVESTIGATING CRITERIAL FEATURES OF EFL TEXTBOOKS BASED ON THE CEFR

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Abstract

This paper explores an approach that could highlight a range of potentially criterial features (CF) that might help users to distinguish one level from another in the CEFR (Common European Framework of Reference for Languages). The CEFR could be used for the instruction and assessment of foreign languages learning. The descriptors are regarded as the useful guidelines to describe achievements of learners of foreign languages. However, as the reference levels were developed by focusing on European languages, it seems to be difficult to introduce the CEFR as it is in EFL (English as a foreign language) contexts such as Japan. The study investigates which text characteristics could be used to discriminate the texts in learning materials for EFL learners at individual levels. The results of corpus analysis on six textbooks indicate that the frequency and complexity of modal verb usage can be used as useful indicators to identify specific levels.

Key words: *CEFR, Criterial features, Corpus analysis, Modal verb usage*

1. INTRODUCTION

The Common European Framework of Reference for Languages (CEFR) has been developed in order to provide a relevant planning tool to promote transparency and coherence in language education. It is regarded as the useful guideline to describe achievements of learners of foreign languages across Europe (e.g., Little, 2007). It has been used for the instruction and assessment of foreign languages in many countries (e.g., North, 2007). Thus, the scheme seems to be useful for English as a foreign language (EFL) contexts such as Japan where there is little coherence in English education.

However, as the Reference Levels of the CEFR was developed by focusing on European languages, it seems to be difficult for teachers to introduce the CEFR in Asia as it is (Nakatani, 2009). Therefore, the applicability of CEFR-J which is the modified version for Japanese EFL learners has been explored (see, e.g. Nakatani, 2012). As the development of this framework is still preliminary stage, we need to investigate the precise descriptions of individual levels.

Another critical issue is that it is difficult to find relevant textbooks promoting transparency and coherence in EFL education in Japan (Nakatani, 2010). Although the CEFR consist of six proficiency levels from A1 to C2, it is not easy to assess the level of EFL leaners and decide the suitable textbooks for them. We may solve the problem by having an explicit set of criterial features (CF) indicating transitions from one level to the next in order to reveal discrimination between levels.

Hawkins and Filipović (2012) argue the usage of modal verbs could be an appropriate discriminating feature. The modal verb use is an important element in English and it is not easy for EFL learners to understand how to use them properly. Therefore it is meaningful to instruct the usage by introducing relevant textbooks according to the level of students. However, there is little research which investigates whether specific modal verb usage can be CF in English learning textbooks. Accordingly, the current

ISSN 1313-2571, Published at: http://www.scientific-publications.net

research examines whether the frequency and complexity of modal verb use can be utilized as useful indicators to identify specific EFL levels and textbooks.

2. MODAL VERB USAGE AND CRITERIAL FEATURES

In order to support to teachers in applying the CEFR to their classroom contexts, the Core Inventory for General English was presented by British Council (North, Ortega and Sheehan, 2010). The aim is to provide a practical inventory of language points that should be a part of a balanced course at individual levels of the CEFR. The project team of British Council investigated course syllabuses and textbooks of schools introducing CEFR, and analyzed the survey results from the teachers. Thus the inventory is not based on actual learners' performance in experimental studies. As seen in Table 1, this inventory maps specific modal verb usages pointing to different CEFR levels.

Table 1 Modal usage according to the Core Inventory for General English (p. 19)

Modals: Can	A1	A2	B1	B2	C1
Can/can't					
Can/could					
Modals: Possibility					
Might, may					
Possibly, probably, perhaps					
Might, may, will, probably					
Must/can't (deduction)					
Modals: Obligation & Necessity					
Must/mustn't					
Have to					
Must/have to					
Should					
Ought to					
Need to/needn't					
Modals: Past					
Should have/might have/etc					
Can't have, needn't have					

Although the inventory has become a useful guideline for teachers, it is not clear how learners perform in authentic tasks. In order to enhance the situation, the English Profile Program (EPP) using empirical methods has been developed. EPP uses the corpus analysis based on 10 million words of Cambridge Learners Corpus covering both spoken (20%) and written (80%) language. By using this approach, it has become clearer how individual level candidates have specific features of modal verb usage. EPP presents the following CF for modal verbs (Hawkins & Filipović, 2012: 148-151).

Criterial features for A2

MAY, CAN and MIGHT in the Possibility (epistemic) sense

MUST in the Obligation

SHOULD in the Advice

Criterial features for B1

May in the Permission (deontic) sense

MUST in the Necessity (epistemic) sense

SHOULD in the Probability (epistemic) sense

Criterial features for B2

It Extraposition with infinitival phrases,

e.g., *It would be helpful to work in your group as well*

Criterial features for C1

MIGHT in the Permission (deontic) sense

There are some discrepancies between Core Inventory and CF of EPP. For instance, MUST in the Obligation is regarded as CF for B1 in the Core Inventory but it is CF for A2 in EPP. The results indicate that teachers' recognition may be different from that of learners' actual performance.

3. STUDY

3.1 Research questions

In this study, the corpus analysis was used to examine the following hypotheses.

Hypothesis 1: There are specific tendencies regarding the type and amount of modal verb usage according to individual levels in the CEFR-oriented textbooks.

Hypothesis 2: EPP criterial features for the individual levels correspond to the quantity of the specific modal verbs in the textbooks of the target levels.

3.2 Method

The current study investigates the features of modal verb usage in six CEFR-oriented text books published by City & Guilds. These textbooks are developed to prepare students for International English for Speakers of Other Language (IESOL) examinations. IESOL consists of six different level tests which targets on individual level descriptors of CEFR: A1-C2. The scanned text files were used to develop the CEFR Text Corpus (CERFTC). The corpus contains 197,309 running words in total. The corpus analysis software *WordSmith Ver.5* was used to analyze the frequency of the use of modal verbs and the appearance of the CF in individual textbooks. As seen in the Table 1, each textbook consists of different corpus size. Thus, the frequency of modal verb use was compared by the occurrence in every 10,000 words.

Table 1 Corpus size of each textbook

Textbooks	A1	A2	B1	B2	C1	C2	Total
Corpus size	18,513	22,385	30,802	37,694	47,829	40,086	197,309

In order to examine the Hypothesis 1, the frequency of specific modal verbs in each level was compared with the frequency in its lower level by using the Log Likelihood Statistic which is regarded as the reliable method for corpus comparison (see e.g. Rayson & Garside, 2000). To test the Hypothesis 2, it is examined whether the modal verb CF occur in the presented levels by EPP.

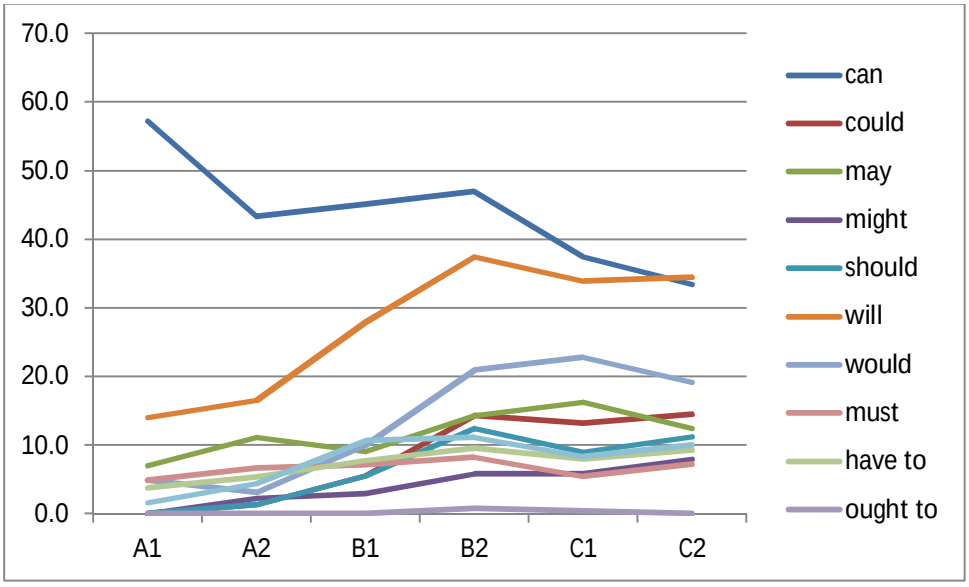
4 RESULTS AND DISCUSSION

4.1 Frequency of modal verb

As seen in the Table 2 and Figure 1, some modal verbs are more frequently used in the texts from specific levels.

Table 2 Frequency of modal verbs out of every 10,000 words in each textbook

Frequency/10000	A1	A2	B1	B2	C1	C2
can	57.3	43.3	45.1	47.0	37.4	33.4
could	0	1.3	5.5**	14.3***	13.2	14.5
may	7.0	11.2	9.1	14.3	16.3	12.5
might	0	2.2	2.9	5.8	5.9	8.0
should	0	1.3	5.5**	12.5**	9.0	11.2
will	14.0	16.5	27.9**	37.4*	33.9	34.4
would	4.9	3.1	10.1**	21.0***	22.8	19.2
must	4.9	6.7	7.1	8.2	5.4	7.2
have to	3.8	5.4	7.8	9.6	7.9	9.2
ought to	0	0	0	0.8	0.4	0
need to	1.6	4.5	10.7*	11.1	8.4	10.0



For instance, *could*, *should*, *will* and *would* are significantly more used in B1 than A1 level. Furthermore, these modal verbs are significantly more used in B2 than B1 level. Therefore, in CEFR textbooks there were specific tendencies in frequent use of modal verbs, which confirms the Hypothesis 1. The use of modal verbs is one of the most important elements in English discourse. The result indicates that learners are expected to learn these skills from B1 level. In particular, *could*, *should* and *would* are frequently used as hedges and boosters which show the stance of information sender's on a particular subject and the strength of the claims they are making. It is claimed that the appropriate use of hedging strategies for argumentation is a significant resource for learners and plays an important part in demonstrating competence in the discourse. Accordingly, the use of these strategies becomes more important from B1 and B2 level learners.

4.2 Criterial features

As shown in Table 3, there are several correspondences between modal verb CF presented in EPP and their occurrences in the relevant textbooks. For instance, as seen in EPP, although the number is very small, CAN in the Possibility appears in A2 for the first time. MAY in the Possibility is seen from A2 level very clearly. MIGHT in the Possibility is used from A2 level. As predicted, SHOULD in the Advice appears from A2 level, and SHOULD in the Probability is more used from B1 levels. Although there is only one case, MUST in the Necessity appears from B1. These results suggest that to some extent, CF presented in EPP correspond with the target level textbooks.

However, there are several discrepancies between CF for modal verbs suggested by EPP and those occurrences in the textbooks. For example, although MUST in the Obligation is CF for A2, it is frequently used in A1. MIGHT in the Permission which is CF for C1 never occurs in any levels. It Extraposition would which is CF for C1never appears, either.

In short, CF for CEFR levels seems to correspond with the frequent use in the target level textbooks. It may be possible to use the CF for discrimination for the learners' levels. It could be said that Hypothesis 2 is partly confirmed. However, we need to pay attention to the points that it may be difficult to judge

the relevance in the higher levels such as C1 and C2. As discussed above, the number of some CF which should appear C1 or C2 level is very limited in the textbooks.

Table 3 Criterial features of modal verbs in EPP

	A1	A2	B1	B2	C1	C2
		Possibility	**Permission**		It Extraposition	**Permission**
		may, can, might	may			might
		Obligation	**Necessity**			
		must	must			
		Advice	**Probability**			
		should	should			
can						
ability-permission	106	96				
possibility	0	1				
Total	106	97				
may						
possibility	1	11	25			
permission	12	9	3			
Total	13	20	28			
might						
possibility	0	5	9	22	28	32
permission	0	0	0	0	0	0
Total	0	5	9	22	28	32
should						
advice	0	3	15			
probability	0	0	2			
Total	0	3	17			
must						
obligation	9	15	21			
necessity	0	0	1			
Total	9	15	22			
would						
It Extraposition					0	0
Total					109	77

5. CONCLUSIONS

Although the effectiveness of CEFR has been argued, there is little research regarding what kind of input is relevant for specific EFL levels. CF suggested by the study on Cambridge Learners Corpus seems to be a good indicator to evaluate learners' levels and predict their next goals. However, there are few studies, to date, to examine the relationships between CF and CEFR-oriented textbooks. The current study demonstrates that although there are a few gaps in the higher levels, CF and the textbook input could be interrelated. Therefore, we may use CF for the indicators for discriminating EFL learns' level. It is also meaningful to introduce the textbooks which target on CEFR into classroom contexts.

As this study deals with relatively small number of textbooks, it is important to investigate other relevant textbooks in order to obtain more concrete evidence.

ACKNOWLEDGEMENTS

This research was supported by Grant-in-Aid for Scientific Research (Project Number: 10211393; Principle investigator: Yukio Tono; 2012-2015).

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

TEACHING PHILOSOPHY AND TEACHING TO PHILOSPHIZE: FROM CULTURAL TO INTERCULTURAL DIDACTICS OF PHILOSOPHY

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Abstract

Comparison of paradigms, i.e. guiding didactical models of how and why to teach Philosophy, explores two seemingly contradictory views: it is often assumed that to teach Philosophy means to read the classics of Philosophy. Critics argue that teaching Philosophy implies learning how to think. I will examine where exactly these two paradigms contradict and how we can reconcile the two concepts by focusing on their particular strengths in the context of an Intercultural didactics of philosophy.

Key word: *Intercultural didactics of philosophy, Culture, Interculturality, Learning philosophy vs. learning to philosophize*

1. CULTURE AND INTERCULTURALITY OF PHILOSOPHY

Though it is difficult to define interculturality, we will argue that there is no gap between an cultural[19] perspective and the realm of interculturality. This section aims first at showing how interculturality relating to the didactics of philosophy might be understood. Second, we will sketch how "Philosophy" could be understood, since learning and teaching Philosophy obviously depend on what we mean by using the multifaceted term "Philosophy"[20].

Apart from the subtleties of different paradigms in contemporary didactics of philosophy, it seems to be clear that teaching philosophy depends on dialogue. This seemingly trivial assumption does not imply that philosophical education is entirely a dialogical process, but claims that *doing* philosophy includes the exchange of arguments, imposing questions, analyzing of the implications of possible answers etc. (see e.g. Kolb, Lin & Frisque 2005).

[19] We should better say "innercultural", but that word does not exist. We mean a perspective from and within a specific culture.

[20] We assume a common understanding of "Philosophy" that is shared by many philosophers and teachers. But this is by no means trivial, since Philosophy can be understood in different ways. For a short discussion, see Murris 2000, pp. 273f.; Münnix 2005, p. 101f. There are several different fundamental ideas as to what Philosophy is and what it ought to be: a) The systematic scientific engagement with philosophical problems, i.e. freedom of will, justice, existence and knowledge of the external world, the mind-body-problem, justification of public authority, understanding of human beings as culturally and/or biologically determined creatures, existence of god(s) etc.; b) Philosophy can be a form of life and a way to live; c) The essential feature of Philosophy is the reconstruction of its History. d) Philosophy is a dialogical process of self-reflection and rational self-improvement. These and other notions are important for many deliberations about how and why teaching Philosophy is different from other disciplines (see Duobliene 2005, 375-397).

Moreover, Philosophy includes both the cultural perspective and the perspective of your interlocutor. Think for example of Gadamer's hermeneutics, the basic assumption about a fruitful, successful dialogue: first, your interlocutor really wishes to say something; secondly, he or she may be right. This is, by the way, one presupposition also for intercultural discussion. What does a cultural perspective mean? It is a shortcoming to think of strict barriers like "we" and "the others", of "insider" and "outsider". For example, what we call the "Christian" culture is intertwined with many non-Christian elements, e.g. of ancient Greek origins. Whatever "culture" may be, there are no monolithic, strictly separated cultural blocks. "We find interculturality within each culture, interculturality is inherent to the human being and that a unique culture is as incomprehensible and impossible as a single universal language and as one man alone. All cultures are the result of a continuous mutual fecundation."(Panikkar 2000, para. 96)

By using "Culture" we mean of course more than religions; that is to say, culture encompasses prevailing norms, traditions, ideological points of view, sociological and political systems, habits of nutrition, architecture, technology etc. Since each culture is, strictly speaking, an extremely complex system strictly speaking, each individual "has" his/her its own culture that overlaps more or less with culturally embedded habits, actions and views of other individuals. If these assumptions are true, a school class might be e.g. ethnically homogenous, but is nonetheless culturally diverse. If we are looking for a comprehensive understanding of human culture, we should accept interculturality. "Interculturality means neither one (single) culture, nor a disconnected plurality." (Pannikar 2000, para. 99) Of course, there are other necessary conditions for successful intercultural dialogue but here is another important condition. "[I]nterculturality is the locus of dialogue. What is lacking to reach cultural conviviality is dialogical dialogue, whose condition, among others, is mutual respect." (Panikkar 2000, para. 136) This is already one pre-condition for the intercultural didactics of philosophy (in the following abbreviated IDP)[21]. We will revert to this point in section 3.

Innercultural *and* intercultural diversity, partly leading to contradicting world-views, and ethical and political conflicts, are certainly challenges for each teacher of philosophy. But philosophical thinking, according to Mall, enables us with the capability to think of cross-cultural similarities:

"[…] in spite of cultural [similarities; TS], there are fundamental similarities between different philosophical traditions. Philosophy in A world context today, i.e. philosophy cross-culturally considered, pleads for the thesis that the general applicability of the concept of philosophy remains unaffected by our recognition and acceptance of more than one genuine philosophical tradition." (Mall 1998, p. 17) This quotation motivates us to look not only at cultural differences, because the emphasis of difference often leads to exclusion. It is rather a motivation to look for universals, for that which we share, which we have in common. In fact, Philosophy is an enterprise of mankind and it accepts universal standards of argumentation. As a common sense realist, we think that we all (all human beings) live surely in the same world. Even if this is true, Philosophy can "still remain compatible with the internal

[21] Kroksmark (Kroksmark 1995, pp. 365-367) explicates different notions of the terms "didactics", "pedagogy" and "Didaktik". In spite of the fact that these and other relevant terms are used in different languages there is no consensus how to use them in international discourses. We agree with Kroksmark in the following respect: "In Scandinavia and in Germany for instance, the terms 'pedagogik' and 'pädagogik' respectively are used to cover the concept of 'Education' and 'Teaching.' 'Pedagogy,' on the other hand, does not usually cover Scandinavian and the German terms 'pedagogik' and 'pädagogik' neither terminologically or conceptually, though it could easily be assumed to. In terms of content 'pedagogy' tends to overlap 'Teaching.' In other words it is closer to a definition in the pedagogic field which Scandinavians and Germans call 'the science of teaching' or '*didaktik*.'" (Kroksmark 1995, p. 366)

cultural differentiation. Additionally to this, it is wrong to think that there is one fully homogeneous Indian or European or Chinese philosophy." (Mall 1998, p. 17)

To summarize: For the purposes of intercultural philosophy it is of great importance to think of philosophy as a cross-cultural universal. Then we speak of Greek, Indian, Chinese Philosophy, and so on. Because these culturally embedded Philosophies interact and influences Philosophy as a cross-cultural_-universal, because cultures are - from a specific cultural perspective - diverse and inhomogeneous, it is not sound to perpetuate the slogan of a pure culture or a pure Philosophy. Cultural exchange and ramifications of cultures can be traced back into the past to e.g. early cultures.

The underlying concept of philosophy can be put as follows: first, Philosophy is "born in particular cultures and thus is local in character, but it is not exhausted in any one of its manifold local manifestations. […] There is no doubt about the cultural embeddedness of philosophy, but this embeddedness does not mean the loss of the universalistic application of the generic concept of philosophy." (Mall 2000, p. 4). Second, Philosophy "could be understood as the activity by which Man participates consciously and in a more or less critical manner in the discovery of reality, and orients himself within the latter." (Panikkar 2000, para. 35) Because our philosophical efforts, our discovery of reality is a "partial, hypothetical, doubtful, imperfect, contingent discovery but a revelation in the last analysis" (Panikkar 2000, para. 42) we should not generalize our own culturally embedded philosophy. But this is no free ticket for an extensive, radical relativism. Though we did not say anything about cultural relativism or universalism, from a perspective of intercultural philosophy there might be no cultural universals in the following notion: "[…] *there are no cultural universals*, i.e. concrete meaningful contents valid for all the cultures for mankind throughout all times. What one calls human nature is an abstraction. And every abstraction is an operation of the mind which removes (abstracts) from a greater reality (as seen by this mind) something (less universal) which it considers important. There cannot be cultural universals, for it is culture itself which makes possible (and plausible) its own universals." (Panikkar 2000, para. 55) This does not contradict the view that nevertheless something is universal. "There are no cultural universals. But there are, for sure, *human invariants*. Every man eats, sleeps, walks, speaks, establishes relationships, thinks ... But the way according to which each one of the human invariants is lived and experienced in each culture is distinct and distinctive in each case." (Panikkar 2000, para. 58)

2. LEARNING PHILOSOPHY OR LERANING HOW TO PHILOSOPHIZE?

We have just argued that philosophy is both culturally embedded, but nevertheless in certain respects a universal enterprise. The question seems to be rather puzzling because it implies that learning Philosophy is contrary to learning how to philosophize. Even more, it might suggest that learning Philosophy excludes learning how to philosophize or has at least to be clearly distinguished from one another. Why is this question important? In this section, we argue that learning philosophy as a "product", take out, as learning the classical positions by heart and learning how to philosophize complement one another (section 2.1). Furthermore, we advocate motivate the thesis that the paradigm of learning Philosophy as a more or less given canon of classical texts (from Plato to Quine) is a result of a cultural perspective whereas teaching how to philosophize transcends the particular cultural perspective towards Philosophy as a discipline with universalistic applications and methods (section 2.2).

2.1 Learning Philosophy and learning how to philosophize

The different styles of teaching and learning Philosophy including philosophical issues, methods, and results of Philosophy range between the following extremes[22]: learning canonical texts without emphasis on own understanding and own reflection. This sharpened characterization certainly has a negative connotation but at this point of our argumentation, we will not evaluate different positions. Without further exemplification, we take the Marxist-Leninist political philosophy and the Philosophy of History and classical canonical texts of occidental Philosophy as examples. Giving lessons in Philosophy means a teacher-based, frontal and authoritative reading of canonical texts. The underlying attempt of Philosophy is that Philosophy is a collection of theories. Its results can be identified and be learned.

Contrary to this view is the position that Philosophy is a practice, an activity (Wittgenstein 1958, pp. 7, 19 and 51)[23]. We cannot understand Philosophy without *doing* Philosophy. As Warburton puts it: "Philosophy isn't a spectator sport." (Warburton 2004, p. 3) You have to leave and give up your spectator role and engage in doing philosophy. Doing includes reading, listening, discussion and writing.

Subsequent to these two concepts, we try to find points of contact, though due to our simplifications we will not find many similarities. The first step of argumentation is that pupils need both and therefore teachers of philosophy need to combine the first attempt – not in a strict dogmatic way – with the second approach. To think that one of the above mentioned ways as a guideline for philosophical education would exclusively be successful would be a shortcoming. Doing Philosophy without learning how to use its tools and without theoretical input often leads to confounding philosophy with fruitless efforts leading at the utmost to arbitrary results or to an extreme relativism. Thinking of Philosophy as a corpus of theories is a result of a restrictive understanding of "Philosophy" and may demotivate pupils, since own rethinking and reflecting is subordinated to a repetition of what the great thinkers had thought. Furthermore, it neglects the process-character of philosophy and excludes Philosophy as a life form.

Now, what can we learn for a didactics of philosophy? Relating to Kant (Münnix 2005, p. 102) we think of philosophical thinking as a source of potentials of reflection and potentials for reflection. Readers The readers might object that Kant is a western thinker and that his philosophical insights do not transcend European thinking, whatever this might be. We argue that we only refer to methodological principles that might be fruitful for a didactics of philosophy in general. Ethnocentricity and other shortcomings do not follow from the following principles (Münnix 2005, p. 102f.):

1. Learn to think for yourself!

2. Try always to think as another human person may think.

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[22]For a short overview of European traditions of teaching Philosophy in Schools, see e.g. Pfister 2010, pp. 132-137. For a more detailed and insightful summary of contemporary efforts in teaching Philosophy see United Nations Educational, Scientific and Cultural Organization. Social and Human Sciences Sector (ed.) 2007. This report is not restricted to analyses of philosophical education in Europe and includes Asian, American, Australian and African considerations and many examples of philosophical education.

[23] Wittgenstein's "Philosophical Investigations" − as it is known − explores the ideas of language-games and of language as a human practice that is analyzed by philosophy. Though – according to MacMillan – we cannot "read a pedagogical theory off from Wittgenstein's work" (MacMillan 1995, p. 169) one basic feature of language is its *use*. To understand language and therefore to understand a philosophical problem depends on how a word or a phrase can be understood in a specific language game. Nevertheless, Wittgenstein thinks of other acquisitions of knowledge than "learning" (MacMillan 1995, p. 164f.).

3. Think in accordance with your own thinking and your own thoughts.

Ad 1: This principle aims at active, self-engaged and systematic reflective thinking. We just give one example to illustrate this principle: we point to Michel Tozzi's proposals for teachers how to teach children how to philosophize (Tozzi 2009, pp. 55). "We should not subordinate awakening reflective thinking to the presumed requirements of an age, language level or degree of maturity. People start to develop their view of the world as soon as they have the language to put their experience into words, an experience that will be reviewed in order to 'extend their thinking' (Kant) as they grow up." (Tozzi 2009, p. 58)

Ad 2: Here we refer to a principle of critical thinking.[24] The school classes are members of a community of inquiry (CI). "In a CI, all members aim at common objectives, share ideas and information with each other, and try to be impartial and objective in their mutual criticism. Also, each member is urged to feel an interest in the beliefs and feelings of others and to respect differences of perspective […]" (Daniel & Auriac 2009, p. 422; see also Vancieleghem & Masschelein 2010, p. 138). More generally speaking, this principle implies to transcend subjective thoughts, interests and world views towards a point of view that enables the pupils to think of generalizability. Only if pupils are aware of other ways of thinking will they learn about the truth-seeking force of philosophy.

Ad 3: The third principle includes self-criticism, exposure of inconsistencies and an iterated proof of internal and external consistency (see e.g. Lipman 1986; Matthews 1980, pp. 56-66). This principle is open to different methods of doing philosophy, e.g. neo-Socratic dialogue, free discussion, critical thinking or a more text-focused philosophical education. It is closely related to the other two principles because to think in self-accordance with yourself (in a non-tautologous manner) requires distinguishing your thoughts from those of other people. To identify other thoughts, pupils discuss with one another and try to anticipate what another person might think.

The following argument will explore how we can integrate the so-called canonical texts into this schema of philosophical didactics. First, it is insufficient to declare that canonical texts need no further didactical considerations. The views that we call canonical or classical or essential differ. If we follow a kind of primitive didactics, we easily run into a naturalistic fallacy. From to pure existence of a given text (position, theory) it does not follow that we ought to read and teach these texts (positions, theories). As Martens puts it, this approach only *seems* to be non-didactical, but is itself a specific nonreflecting erroneous didactics (Münnix 2005, p. 103, citing Martens 1983, p. 14).

Second, texts are nevertheless the basis for philosophical education. They should be read and discussed as befits the age and ability of the pupils. But the teacher needs to find a balance between a purely contextual interpretation − that pupils give − on the one hand and of an entirely dogmatic interpretation of what a classical, great thinker "really" means. To say it more clearly, the role of the teacher is to switch between frontal teaching (i.e. giving information, clarifying philosophical terms, repeating common arguments), and a role as a moderator and a *primus inter pares*.

[24] Critical thinking is discussed in e.g. Daniel & Auriac 2009, pp. 418-421. Like the authors, we think that there is no consensus definition of critical thinking. Nevertheless, critical thinking includes exploring and evolving methodological doubts. Furthermore, it aims at teaching how to think logically, stringently and coherently. For a short summary of a critical model in the theory of education see Solarczyk-Szwec 2009, pp. 16 ("Table 2: Educational models vs. teaching styles and strategies and learning patterns").

2.2 From cultural to intercultural didactics of Philosophy?

The next question seems likely: what does follow for an IDP? Can the three principles (see section 2.1) be applied to philosophical education in multicultural classes?

We cannot focus on the question of whether we need a new IDP (Münnix 2005) or not. Instead of analyzing new didactics we argue that the way from cultural to intercultural didactics does is not that dangerous; however, we have to be aware of some obstacles. Tichy (2010, p. 49) suggests expanding didactics of philosophy to how we understand it within a culture. To teach philosophy in intercultural learning groups needs extended teaching skills such as tactfulness, empathy, and an ability to judge[25] (as a general capacity). From the teacher's perspective we can assimilate two requirements of an intercultural pedagogy: tolerance and respect (see section 1 of this paper) in combination with careful intercourse with pupils. Furthermore, Tichy argues, intercultural classes demand more effort to talk about other human beings and life forms adequately.

So far, this does not imply that we need a new intercultural didactics. Are the above-explained principles (section 2.1) open to intercultural teaching and learning situations with respect to philosophy? We think that the three principles in combination are consonant with the plurality and diversity of cultures (section 1). Even more, the principles anticipate both indications: first, we live in more or less plural cultures and cultures are diverse. Second, this is relevant for a didactics of philosophy. It is relevant in at least three respects (Tichy 2010, p. 49): a) Plurality and diversity require talking about philosophical issues from the perspective of another culture; b) We learn to distinguish two groups of "others": the others in a given culture, usually labelled by "our culture" and the "others" of another, different culture. Especially the others of the second type impose other philosophical issues than e.g. the occidental-european tradition does; c) An intercultural dialogue, particularly a philosophical dialogue, needs more effort than an "innercultural" dialogue. Philosophical issues, e.g. ethical problems in multicultural societies can be reflected with more differentiation within an intercultural perspective.

Do the principles sketched above give evidence for being suitable in an intercultural perspective? We think that they at least motivate one to think of plurality and diversity as inevitable conditions for doing philosophy, i.e. for philosophizing. Trying to think like another person might think, trying to anticipate a different and an external, a "strange" point of view, is a good exercise for accepting plurality and diversity. To think in accordance with yourself is a principle that can be applied universally. This does not imply more than that any other person who is involved in the process of philosophizing should also think in accordance with his own thoughts. This principle avoids inconsistencies and therefore arbitrary relativism (*ex contradictione quodlibet*).

Postmodern philosophers might object that the whole argumentation is eurocentric[26], logocentric or ethnocentric (see Münnix 2005, p. 99; Tichy 2010, pp. 44f.). It is true that reflecting on intercultural didactics of philosophy relies on weak universalization. And it is also sound to think that thinking of universal principles cannot be totally separated from a specific culture. But though we have no proper method to deduce intercultural valid principles from principles that are generated within a culture, we have good reasons to argue in favour of a weak universability. The genesis of a principle e.g. in an Asian culture does not imply that this principle cannot be applied in the context of an African or American

[25] This ability is a general ability, according of what Kant labelled as "Urteilskraft".

[26] For a more detailed discussion of ethnocentricity see Tichy 2010, 52f., especially with respect to Derrida.

philosophy class. Justification can be separated from the historical setting of a genesis. To give an example: the five-finger-method, invented by Ekkehard Martens, not only shows its potential for German school classes because it does not rest on a "German" or "European" method. It combines Phenomenology, Hermeneutics, Analysis, Dialectics and Speculation for the purpose of formulating and debating philosophical issues in the context of Philosophy for Children (Marsal 2009, p. 504). We think that it is not eurocentric or ethnocentric to claim that philosophizing relies on argumentation and not on persuasion. Argumentation and reflecting is not totally independent from cultural conditions, but nevertheless philosophy, understood as an enquiry of all cultures, depends on certain generalizations (see e.g. the three principles in 2.1).

Additionally, we argue that an IDP has to be aware of certain limitations of understanding. To account for argumentation radically sometimes leads to that what can be called *morbus hermeneuticus*, one philosophical disease. The main symptom is that doing too much hermeneutics tends to result in more or less fruitless debates about texts due to remaining in the horizon of a text. Another factor that restricts the potential of an IPD is the fact that different cultures share different and contradictive metaphysical assumptions as culturally imbued contingent conditions for philosophizing. One common cross-cultural basis for philosophizing could be philosophy as a worldwide wisdom-seeking enquiry.

3. PRESUPPOSITIONS OF INTERCULTURAL DIDACTICS OF PHILOSOPHY

In this section, we sketch the basic requisites of an IDP.[27] Furthermore, we will list a few topics that are especially relevant for teaching in the context of an intercultural didactics of philosophy.

It is obvious that the world is full of war, aggression and fanatics (Steenblock 1999, p. 178). We keep this in mind and try not to overload the concept of interculturality in general and IDP in particular. On a very theoretical level, we agree with Pannikar, who assumes that relativity of interculturality can lead to a culture-sensitive, nevertheless cross-cultural point of view: "The relativity inherent to interculturality does not question the discoveries of a culture, but neither does it absolutize them. It relativizes them, i.e. it considers them valid and legitimate within a given culture and within the parameters admitted by the latter: in a word, within the encompassing myth of that culture." (Pannikar 2000, para. 82). It would lead us too far from the subject at this point to show how interculturality is not necessarily bound to relativity. One more very important obstacle to interculturality has to be considered: "Our civilization accepts easily other cultures as long as the latter accept the rules of the game that the former postulates. And it is obvious that because of its very power, our civilization can allow itself the luxury of being much more tolerant than weaker cultures." (Pannikar 2000, para. 83). No "cognitive imperialism", often regarded as hegemonic western thinking, can and should be the basis for IDP. We list without further comment basic conditions that help to circumvent this difficulty:

- We do not claim or suggest that intercultural didactics are the better and exclusive didactics of philosophy. Well-established principles of intercultural pedagogy and an extension of a particular prevailing didactics are often helpful in the context of IDP.
- An undesirable effect of a misleading concept of IDP could be a semblance of fruitless harmonization. IDP as we understand it means both, acceptance of disagreement, and acceptance of

[27] We cannot focus on the contribution of philosophical education in international contexts, but wholeheartedly agree with Heinemann & Todoric-Bebic 2000, who argue that one purpose of schooling worldwide is to improve social cohesion.

fundamental controversial subjects. It furthermore implies to abandon any purely cultural motivation of a judgment "Culture A is superior to Culture B, therefore it is allowed to dominate Culture B. To dominate includes to provide a statement of philosophical requirements. Therefore Culture A implicitly can tell Culture B how to philosophize." Disagreement has to be reflected and should give no reason to switch from arguments to complete abandonment of a discursive relationship.

- Openness of thinking means that a philosophical issue can only be out of bounds if it is obviously only provocative or has been put on the agenda to hurt someone's feelings etc. There are almost no taboos for the thinking and philosophizing person.
- IPD makes allowance for sensitivity towards different cultures and culturally embedded philosophies. Again, that does not imply arbitrariness of thinking and its results (see Paul 1999).
- IDP puts forward basic topics of Philosophy and is open to new methods. It uses and improves dialectical thinking, critical thinking, hermeneutics, phenomenology, analytical philosophy, neo-Socratic dialogue, free discussion, and alternative forms of philosophizing such as literary philosophy or the use of the drama for philosophical purposes.
- IDP does insist on the belief that few intercultural universals of argumentation (Paul 2009), problematization (Martian & Suciu 2009), logical thinking, arguing, sharing the methodological rules of community of inquiry are valid. If this seems to be too ambitious it is sufficient to think of such rules as if they were valid. At least, from our point of view it is necessary to think of these rules as tools that facilitate philosophizing from a perspective of IPD.

Finally, we have to touch on contents of philosophy that are especially relevant for inter- and multicultural teaching of philosophy. We make no claim to be complete. The purpose of listing different topics is not to exclude other topics. One systematic aspect for the following topics and big issues is their applicability and relevance in an intercultural perspective. One goal of philosophizing is that pupils should to be able to understand and to adopt perspectivism (Münnix 2005, p. 114f.) as the philosophical attitude to identify the different, the strange, and to be able to change perspectives. We bear in mind that appropriate philosophical issues imposes by different cultures include different questions from different perspectives, and that engagement with these topics helps us to identify shortcomings, prejudices and deficiencies in our own culture. Additionally, issues of practical philosophy (Ethics, Applied Ethics, Social Philosophy, Cultural Philosophy, Political Philosophy, Philosophy of Language and Aesthetics) point to conflicts in multicultural and intercultural societies.

Questions of cultural identity, the meaning of life, ethical relativism, justifying ethical norms, arguing in favour or against universal human rights, dealing with epistemological and other forms of skepticism are all relevant topics. Of course, some of these topics (Münnix 2005, p. 116f.) are rather more adequate for higher classes than for pupils in primary schools. In the field of *epistemology*, the relation of sensation, perception and reason is a challenging subject of debate. Do Indian people think differently than Europeans? Do they have a different logic? Which criteria for a theory of truth are appropriate? Are they universal? In the field of philosophical *anthropology*, philosophizing about the relation of human beings as culturally and biologically determined creatures marks one important domain. Another big question is whether and how the european tradition of subject-object-dichotomy led to individualism. In the field of *ethics*, philosophizing in the context of IPD can lead to the question of how Kant's categorical imperative is a kind of supernorm for deontological ethics. A controversial issue discussed in *Aesthetics* is how we describe and evaluate beauty and beautiful things or person. Is beauty

in the eye of the beholder? *Metaphysics* explore concepts of the transcendent sphere, like the supernatural realms. Do we think that there are basic metaphysical assumptions like the existence of the world as the real in all cultures? Are there "last things", eternal things? Is the soul immortal and eternal? *Political Philosophy* asks for descriptive and normative concepts of justice, human rights, equality and freedom, political participation, e.g. in a democracy etc. Finally, *Cultural Philosophy* is the domain that reflects how "we" and "the others" build up cultures and how conflict *and* agreement can be understood by philosophy.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

COMPUTER GAMES FOR BEGINNER READERS, DEVELOPING ABILITIES TO RECOGNIZE WORDS

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Abstract

Reading is basic academic ability, regardless of the change in our modern information environment from "book" to "multimedia". The children nowadays prefer electronic stimuli and require them in education too. Reading activity integrates variety of processes that should find reflection in learning and training. This paper presents the opportunities of computer games to combine word recognition exercises with the training of language skills, eye movements in reading, development of memory and attention, and improvement and maintenance of motivation. Besides achieving the multifaceted objectives the games provide the opportunity to facilitate the implementation of an individual approach for each child. Computer games allow "tuning", in accordance with the sensory preferences, pace of work and the specific difficulties of each learner. From this perspective, the proposed approaches are effective for preventing reading difficulties in children with dyslexia, autism, etc.

Key words: *learning difficulties, reading disorders, dyslexia, educational games, computer-based teaching*

1. INTRODUCTION

It is undeniable fact, that reading is a complex process. Beginner reader and well trained reader show different characteristics of reading process. Reading education aims to rapidly visual identification of words through developing different reading strategies. Word identification requires phonological skills, grammar, semantics, memory, motivation. Reader's experience also plays an important role.

2. CHARACTERISTICS OF READING

The most widespread reading models in specialized literature are "bottom up" and "top down" models (Gillon 2004, Matanova 2001, Tsenova 2009, Ignatova 2009, Stereva 2013.)

"Bottom up" model (which is called also indirect model) is based on word identification as a sequence of visual images of letters which reflect auditory model of phonemes and have specific sense. Key

aspects of "bottom up" reading are: visual identification of letters; auditory identification of letters; the sequence of letters in written words. Successful reading requires performance of several sequence (hierarchical) steps: decoding graphic symbols; "translating" graphic symbols in auditory form; understanding the sense of the word (Stereva 2012). In previous publication (Atanasova, Terzieva, Trosheva, Katzarova, Andreev, 2012) we have suggested attractive multisensory games for developing visual identification of letters (decoding).

"Top down" model (which is called also direct model) is based on context for correct word identification. Top down reading strategy requires wider visual field for simultaneously perception of the whole word and word context; and generating hypothesis of word meaning on the base of previous reader's experience whit the word and the sense of the text. This reading strategy does not employ segmental word perception, but whole word perception. The key components of up down reading are: high cognitive processes including syntactic and semantic skills (Stereva 2012).

Beginner readers use dominantly bottom up reading strategy. Because of difficulties in correct word identification letter by letter they often do not understand the sense of the text. The stages of teaching reading, described by (Zdravkova 1991) are as following: analytical stage, stage of developing whole reading strategies and synthesized stage, composed by different reading strategies. That means that educational aims, after the analytical stage should be developing strategies for global perception of the text and focus on its content.

The experienced reader uses both models in compensatory way: when the reader has some difficulties with the top down model he relies on the bottom up model and vise verse. Rumelhart describes an interactive reading model (Stereva 2012), which considers reading as a process of integration of strategies that are characteristic of both approaches ("bottom up" and "top down"). Dyslexic children have difficulties in implementing some of the strategies or both of these models. (Yakimova 2010) highlights the following important points in the treatment of reading difficulties:

- In both models there is a risk of visual distortion in word identification. In direct model visual distortions affect the word as a whole, while in indirect model these distortions affect the discrete graphemes. Therefore must be trained visual modality.
- Visual vocabulary is built through good visual memory and knowledge of the sequence of graphemes in the word. Visual representations are refined through the indirect reading strategy.
- Semantics is the common between the types of reading. Although the mechanisms of access to the lexical code are different, it would be useful to activate lexical-semantic field. Goodman (cited in Stereva 2012) suggests that the expansion of semantic knowledge and understanding of syntactic structures improves reading due to the limitation of possible meaningful options of reading. Sagel et al. (2005) examine the intervention approaches aimed to whole word recognition, which is improved by concentrating on semantics.

3. DISORDERS OF READING PROCESSES AND IMPLICATIONS FOR ITS CORRECTION

3.1. Eye movements during reading

Eye fixations and saccadic eye movements alternate while reading. Actual recognition of the word is possible during moments of eye fixations. Left to right saccadic eye movements without "returning" from right to left or skipping rows are necessary for successful reading. But many dyslexic children have ineffective saccadic eye movements. Fisher et al. (2008) conducted a study with 182 dyslexics and a

ISSN 1313-2571, Published at: http://www.scientific-publications.net

control group with 114 participants. Findings suggest that mastery of eye movements develops with age and development of this skill continues into adulthood. Dyslexics and controls demonstrate significant difference in antisaccade performance. The daily training of eye movement skill leads to improvement in 80% of the cases. Improved eye movements transferred on reading – error rate decreases. Training of eye movements should be directed to:

- Overcoming the "return" of the eye movements.
- Training eye movements from left to right and top to bottom.
- Extension of the visual field.

3.2. Relation between written image of the word and its meaning. This connection may be unstable, both in direct and in an indirect way of reading. Its reinforcement can be stimulated by:

- Increasing the speed of response when processing visual incentives;
- Forming and expanding the volume of an accurate visual vocabulary;
- Skills for sound analysis and synthesis.

3.3. Phonological skills. The hypothesis of phonological deficit underlying reading disabilities is repeatedly demonstrated in numerous studies. A brief overview of research in this direction can be seen in (Stereva 2012) and (Atanasova et al. 2012). Children with phonological deficits have difficulty to understand the sound structure of spoken language and the storage of phonological information in working memory (Stereva 2012).

Tasks for the development of phonological skills:

- Counting phonemes in words and nonwords;
- Counting syllables in words and nonwords;
- Identification of certain phonemes in words and nonwords;
- Rhyme;
- Replacement of phonemes into words.

3.4. Attention and memory. These mental processes are often unstable for children with learning disabilities and children with dyslexia. Reading suffers when it relies mainly on visual referencing, attention and memory. It is recommended to stimulate the development of these processes, by developing games and exercises with non-linguistic and linguistic material.

3.5. Motivation. Any feeling of failure reduces the desire to read. It is advisable special games and exercises to be proposed that will distract the child from the stress of "reading" and will strengthen its skills through support for coping.

- The Intrinsic (internal) motivation can be enhanced by:
  - Creating conditions in which success is experienced: the hierarchy of difficulty of the tasks; grading the degree of difficulty of the task by providing assistance through visualization, reducing the unknown elements, simplifying the incentives and others can give rise to a sense of success in each child.

  - Maintenance of interest: the ability to select certain tasks and incentives related to the personal interest of the children, maintain the interest. The computer version of the game allows the same task to be presented with different stimulus (for example: cars for boys, dolls for girls etc., related to individual interests).

- The Extrinsic motivation can be ensured by providing an award (again a different reward can be provided, depending on personal preferences and interests), after covering a certain criteria (example: after each solved problem, after solving five tasks, after completing a task in specific time, etc.). The criteria can also be chosen according to individual performance level and the child's need for positive feedback and support.

4. IDEAS FOR GAMES DEVELOPING READING PROCESSES

We will not discuss in detail here games with non-linguistic material such as lotto, memory, puzzles, mazes, finding differences between two pictures, finding an element on a complex picture and others, which improve complex memory, attention, visual perception. They can also consist of linguistic material of letters, syllables, and words.

The ideas for games, presented by us, are aimed at word recognition in two possible models, while combining elements that train various mental processes, necessary for reading and language development (Nominative function, naming). Such games are listed below:

1. Correlation between written word and corresponding image. This type of game serves for improvement of reading abilities, semantics development and for creating a visual vocabulary.
2. Mastering short-term memory – development of the visual attention, short-term visual memory, word identification, visual discrimination, and semantics.
3. Completing words – development of thinking and concepts, semantic conjecture, activation of the visual vocabulary and phonemes synthesis.
4. Determine if the words are identical – development of visual attention and discrimination of movements of eyes, phonology.
5. Connecting words with similar meaning among the group of words that includes also words with similar pronunciation (not exact homophones). Examples in Bulgarian are “блуза – фланелка – буза – супа – бульон – трион”. The translation in English is “blouse – T-shirt – cheek – soup – bouillon – saw”. The right answer is to connect “блуза – фланелка” (blouse – T-shirt) and “супа – бульон” (soup – bouillon) – similar meaning, not “блуза– буза” and “бульон – трион” (similar pronunciation). The goal is development of visual attention, concentration, thinking and concept.
6. Transforming a word into a new one – this game contribute to refinement of the visual vocabulary, development of phonology, analytical skills, exchange letters, improvement in semantic, thinking and concepts.
7. Recognition of the word by its structure (e.g. number of strokes for each letter of the word or a structure from blue squares for consonants and red for vowels). A easier version of the game is the completing of missing letters in a word – the game named “hangman” – trains syllabic analysis, analysis and synthesis of words, identifying word, semantic thinking, and visual vocabulary.

8. Semicircle reading – training of the eye movements, identification and synthesis of words, semantics, thinking.
9. Reading following the directions – training of eye movements, identifying word, synthesis of words, thinking.
10. Reading words written in different directions – training of eye movements, thinking, improve identifying words.

5. Educational games for reading

The idea of learning by computer games is not new. Prensky (2001) appreciate the engaging and motivating effect of video games and he asserts that this effect should be exploited in education in order to improve the teaching and learning. This idea has been expanded and now the education takes advantage of the power of games. Furthermore, Prensky (2008) states that the role of technology in classrooms is to support the new teaching paradigm – to support students teaching themselves with their teachers' guidance. Computer technology nowadays offers learners new, highly effective tools they can use to learn on their own. Usually computer games are very popular with pupils, so they can motivate young students to win and challenge them to move ahead to the next level. Educational games in contrast to traditional classroom practice provide students with almost immediate feedback on their decisions and actions. Thus they can benefit and proceed to the next level when they are ready, even without teacher's actions. In addition, there are many different ways that teachers can use games within the classroom and/or for homework.

Many games are really useful for developing the skills that children need as beginner readers. By playing such games and mastering early reading skills the child will develop confidence and read more broadly and fluently. The computer games help to keep a good balance between enjoyment and gaining literacy competence by increasing reading efficiency and understanding. In addition the games offer several difficulty levels, so the appropriate one can be chosen. The set of words that are used in the game can be selected from a range of word sets in the rich word pool also. This can be supported by computer technologies. In the beginning of all mentioned computer games audio instructions are provided.

The proposed educational computer games are appropriate for multisensory teaching approaches that are very effective in facilitating the acquisition of basic skills (Terzieva et al 2012). Additionally, the presented games provide opportunities for setting important features in accordance with the characteristics of the child. These include:

- support of different difficulty levels, so based on the ability of the pupil the appropriated one can be selected;
- variety of word combinations provided by a vast word pool;
- support for different tasks' speeds;
- choice of size, font and colour of text / letters;
- choice of the background colours;
- usage of different sounds (music, songs, exclamations, clapping, ringing, etc.; typical sounds for an image; words / phrases read aloud, etc.);
- encourage learner by rewarding each advance (gain points, badges, prizes);

- multiple usage of a game for training of different cognitive abilities.

Below are described computer games for mastering reading, especially developed according to Bulgarian phonology but some of them are universal, so they can be suitable for another language (of course, with changing the word pool).

5.1. *Sliding from left to right.* These exercises are suitable for training the eye movements from left to right and top to bottom and in this way overcoming the "return" of the eye movements. We present here two examples of exercises:

- **"Bicyclist"** – a funny bicyclist drives along and palm trees grow at once. The movement corresponds with the eye movement when reading. Both types of movement are trained (Fig. 1):
  - along the row (left to right)
  - pass to the next row (right border to left border of the page)

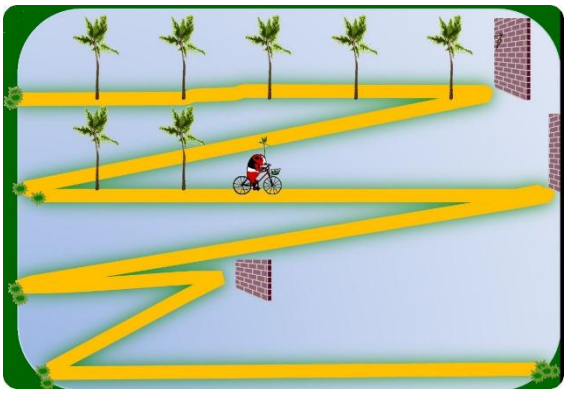


Fig. 1 "Bicyclist"

- **"Flowerbed"** – flowers appear in rows. The sequence corresponds with the eye movement when reading. Afterwards a light spot tours the flowers in the same order and "repeats" the movement. In this way the second stimulus increases the learner's attention in the reading process. Actually this is the same training as the above mentioned with another scenario (Fig. 2).

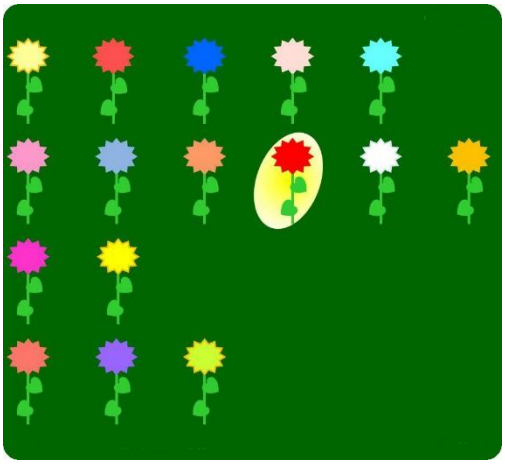


Fig. 2 "Flowerbed"

ISSN 1313-2571, Published at: http://www.scientific-publications.net

5.2. *Matching a word with a picture.* The word can indicate a noun or an action (part of a sentence). It is good idea to check if the child is grasping the deeper levels of meaning when reading. In these games a word that matches a given meaning is searched for.

"Flow in" is a simple game that trains reading comprehension. It increases the speed of response when processing visual incentives. A word appears and the proper picture from a set has to be chosen, which meets the written word. It is possible that several pictures are appropriate for a word (e. g. pictures of a boy and of a girl are both true for the word "child") or one picture is true for several words (e. g. the same picture is appropriate for both "bird" and "dove").

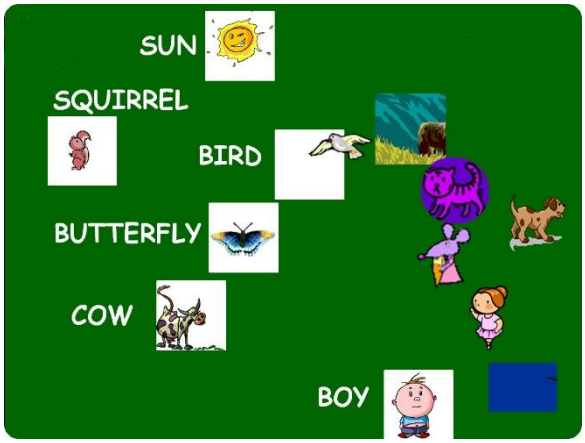


Fig. 3 "Flow in"

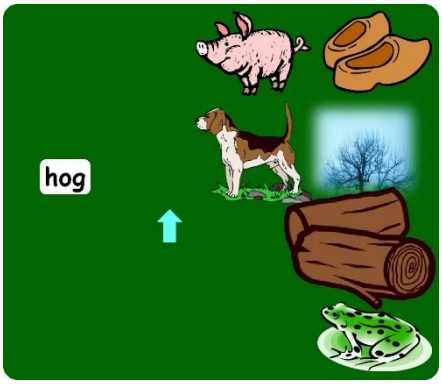
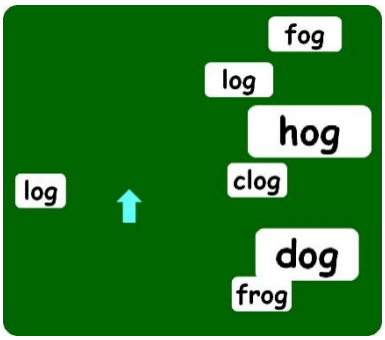


Fig. 4 "Spot it!" a) Spot the picture!



b) Spot the same word!

5.3. *Finding the same word.* In the game **"Spot it!"** the short-term memory is trained. A word is exposed within 3-5 seconds, and then it has to be found among several structurally related words or pictures, where only one meets the read word. We present here two games for this purpose.

a) Read and match with the proper picture – in this exercise a word appears for several seconds. The task is to read the word, to memorise and comprehend it and find the corresponding picture amount a group of images. As an affirmation the picture grows.

b) Read and find the same word – the exposed word has to be read and remembered then it has to be identified within a group of words. The located word grows as an affirmation (Fig. 5 b).

5.4. *Completing words by putting in the missing letter or syllable*. In the game **"Missing!"** the learner has to guess all the words by filling in the missing letters. According to the pupil's skills a set of words and level of difficulty can be chosen at the beginning of each round.

a) Put in the missing letter – in a thematic word list (in our example "Fruits") the first one or two letters of the words are missing and the child has to put them in

b) Put in the missing syllable – a picture is suggesting the meaning of the word.

Sometimes it is easier for a child to work out an unfamiliar word sound by sound or to look at the chunks or syllables in a word, for example *camp-ing* or *butt-er-fly*.

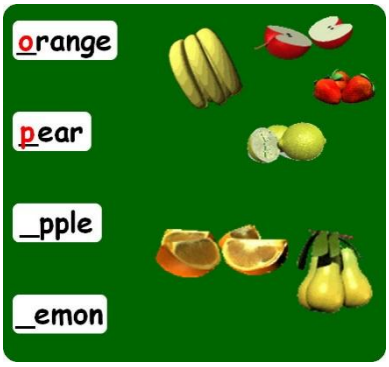
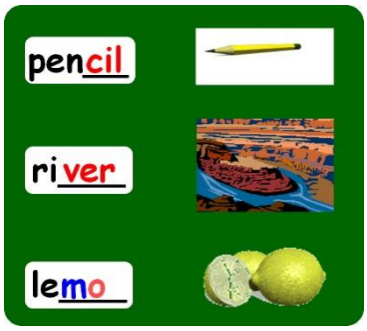


Fig. 5 "Missing!" a) missing letter



b) missing syllable

5.5. *Same or different word?* The exercise **"Match?"** aims to quickly determinate whether pair of words – anagrams are identical or not (e.g. bat – tab, pat – tab, pool – loop; in Bulgarian: път – тъп, кос – нос; translation: road – dull, blackbird – nose). The game trains the reading and understanding

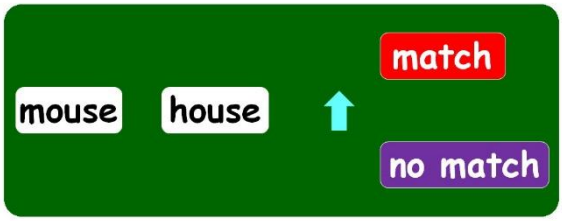
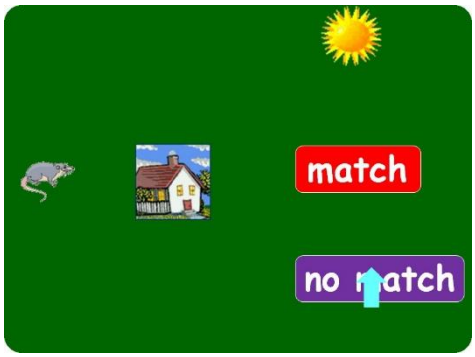


Fig. 6 "Match?" a) two words to be compared



b) Answer correct!

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abilities. The two words to be compared appear for 2-3 seconds and then disappear. The task is to read properly the words and decide if they are identical or not. When the answer is correct a sun shines, when incorrect a cloud with rain pops up. Then pictures illustrate both words. More advanced level is when the words are longer and/or letters are rearranged (e.g. lemon – melon, late – tale; in Bulgarian: лебед – дебел, камък – малък, translation: swan – thick, stone – small).

5.6. *Building a new word by substituting first letter*. The idea is to spot letter patterns in words. Replacing the first letter in a word to get another word (e.g. hose – rose, donkey – monkey, in Bulgarian роза – лоза – коза, translation: rose – vine – goat). Hints for the new words may be suggested by pictures or audio instruction (description).

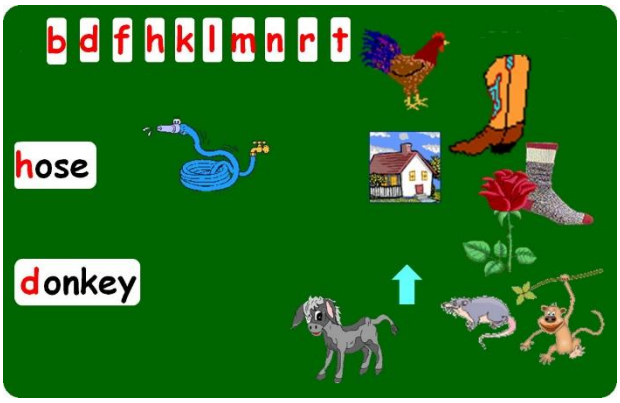

Fig. 7 “Substitution”

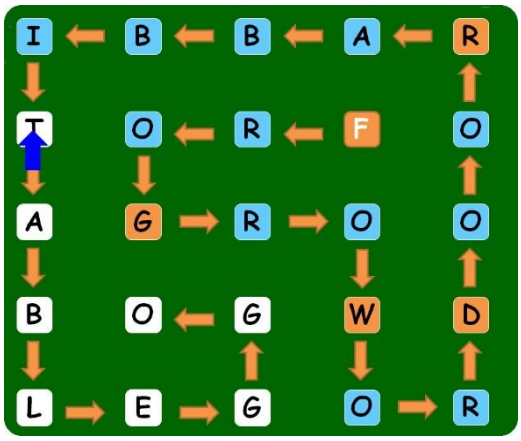

Fig. 8 “Maze”

In the game **“Substitution”** a word illustrated with picture is shown and the letter to be substituted blinks several times. Then the letter disappears. The task is to choose another letter from a list in order to build a new word. A cluster of pictures suggest a possible solution. If the chosen letter is correct, the picture illustrating the new word joins it (Fig. 7). As an option the word can be heard too. Another

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version of the task is to give audio instructions for converting the word into another one. More elaborated task is to rearrange the letters to form a valid word. A hint button can get a clue orally or visually about the meaning of word.

5.7. *Reading words letter by letter* – **"Maze"**. Reading letters or syllables following arrows in the four orthogonal directions – left, right, up and down. This game trains the ability to follow a predetermined direction and mastering it in order to read the interlaced words. The direction is specified for every position with arrows. The last character/syllable of a word is the first for the next one. It changes its colour to mark the boundary (Fig. 8). Simultaneously the word sounds as an affirmation.

The task can be made more complicated by using "transient" arrows – they are not predetermined and appear after clicking the right letter to give the direction for finding the next one. In that way the letters can be used for building many different words and the game becomes a genuine maze. After completing a word, the arrows that construct it disappear.

5.8. *Reading in semicircle* – This game refers to the pictures or reading of words, which are arranged in a semicircle from the left to the right. The game **"Snake"** (Fig. 9) trains the ability to follow letters in the required sequence but in nonlinear direction in order to find and read the real words. Some letters can be repeated so that to form as much as possible words. Usually the last characters of a word are the beginning of the next one. There is a hint about the number of all words.

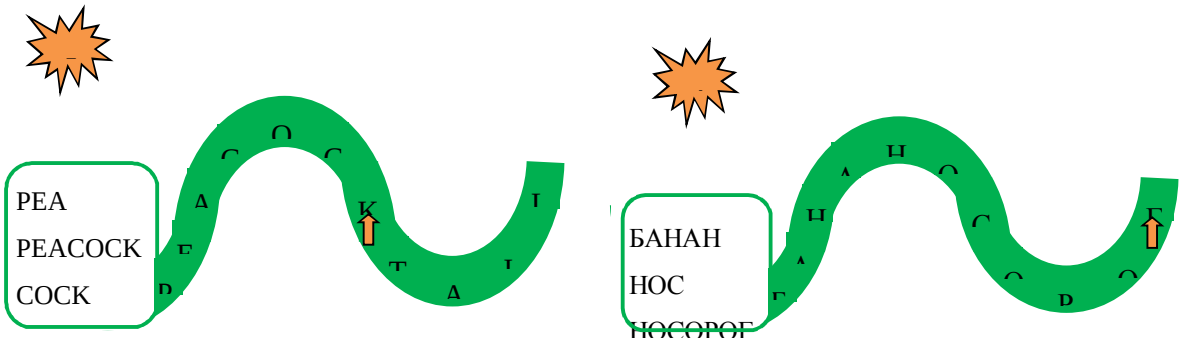

Fig. 9 "Snake" a) English language variant a) Bulgarian language variant

(Translation of words: banana, nose, rhinoceros, horn)

The game starts with double click on the first letter of word, requires click on each following letters to the last one when double click again indicate reading of the word. If it is a valid word – it appears in the list on the screen and is pronounced by the computer. Otherwise an error sound is heard. In the example shown in Bulgarian language variant all possible meaningful words are found, while in English version only three of five are found (missing cocktail and tail). This game masters reading of the interlaced words.

5.9. *Finding the words in the* **"Word pad"**. In this game the goal is to find as much as possible valid words in the pad that can appear in different shapes (square, triangle, octagon, outline of an object, e. g. car, airplane, helmet, mountain). The words have to be sought in every direction: horizontally, vertically, diagonally, forwards, and backwards. The word can be selected by clicking on the first letter and drawing a line to the last one (Fig. 10). When completing a word, it sounds as an affirmation and a

counter gives the number of words found. Additionally, as an option a list of all words can appear where the found words are coloured. This game can have a competition mode, when the performance time is taken into account too. The score of each gamer is stored for success monitoring.

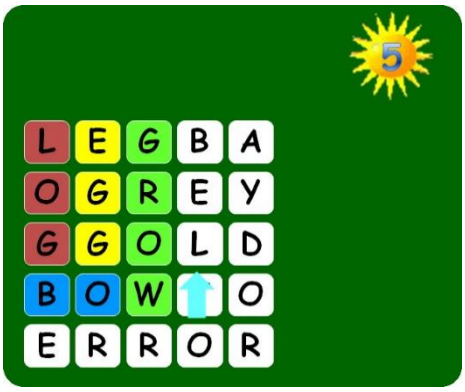

Fig. 10 “Word pad”

5.10. *Reading words letter by letter:* In this game (“**Bee**”) the flowers appear as in the exercise 5.1. “Flowerbed”. Afterwards a bee flies from flower to flower in the same order and “puts” a character in every one (at this moment the letter “S” on the third row). The characters build a sentence. In this exercise are trained the proper eye movement and the reading abilities (Fig. 11). As an option the words and the whole sentence can be read by the computer before or/ and after the exercise.

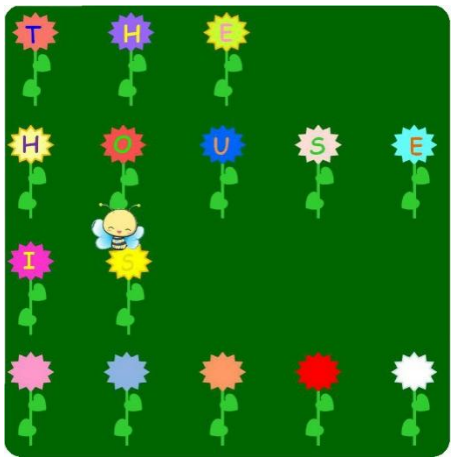

Fig. 11 “Bee”

6. CONCLUSION

The proposed game-based approach is useful for beginner readers to develop basic literacy and master reading. Often the same game can be used when reading process disorders exist, because the game usually trains a combination of several skills, so all of them are improved. The earlier pupils receive necessary help, the more likely they will become good readers. Computer games are excellent choices

because they let children have fun as they develop their skills and can encourage a wide variety of reading activities.

The potential benefits of game-based teaching approach are a lot. The general outcome is increasing efficiency in education. Teaching by educational games can meet learners' needs and preferences by providing multisensory, motivational, and stress free training tasks in an amusing manner. Games also meet the criteria for quality teaching by supporting structured, sequential, based on previous learning, which develops the intellect by intersensory associations. Thus the children can cope with over-learning without frustration and fatigue. Most psychologists and teachers consider educational computer games stimulating and good for self confidence. Competition options of the games contribute to the learners' motivation and make them success-oriented too. In addition, computer technology provides tools for keeping track of students' progress in acquiring basic reading skills.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

FACEBOOK IN A TEACHING PROCESS AT ICT COLLEGE BELGRADE

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Abstract

In this Paper the idea of using social networks in a teaching process has been presented. Since the Facebook is the most popular social network in Serbia there have been described aspects and results of using the social network Facebook in a teaching process. This work consists of two parts. In the first part were given certain premises concerning possible positive and negative aspects of using social networks in a teaching process. This social network is used in teaching the subject Digital telecommunications at ICT College in Belgrade during the first three months of the school year 2012/2013. Two different ways of using Facebook have been presented in a teaching process, as well as some problems which occurred during its implementation. At the end were shown results and conclusions collected by the students questionnaire about the usage of the social network Facebook in a teaching process.

Key words: *Social networks, Facebook, e-learning*

1. INTRODUCTION

The development of Internet in the last 20 years has influenced almost every aspect of human society. Exchange of data and information, together with the technological advancement, has gradually brought up to some new forms of communication. The terms such as blog, tweet, post, poke, sms, mms and others are a common part of our daily communication. Some other forms of communication have got their electronic equivalents. So nowadays, instead of writing letters prevails the communication by e-mails, and a standard phone service has got its equivalent on the Internet due to VoIP protocol and services such as Skype and Viber.

In the light of the described technological advancement educational and learning processes have undergone some changes. Since the learning process presents relatively permanent change on the behavior or on some its aspects, which is the result of the previous experience, the possible ways of enabling us to achieve the previous experience, have obtained in a time frame some new forms. No matter whether it is a distance learning, the use of multimedia and interactive contents, video clips, animations or mobile applications, they all base their work on the development of Internet and web applications. The development of Internet which is marked as web 2.0 era of the Internet brings us blogs, micro blogs, social networks, media sharing sites, social bookmarking, Wiki, virtual surroundings. We get some new ideas of how to use the above mentioned tools in a teaching process. We are investigating how to improve the learning process with the above mentioned tools, how to influence the students` motivation and how to enhance the quality of acquired curriculum. The social networks are due to their popularity and broad usage one of web tools 2.0 to which the biggest attention is paid and from whose usage in the curriculum we have the greatest expectations. Since the social networks are relatively new phenomena all experiences about the usage of social networks in our curriculum are very important in order to obtain a better insight of all aspects of their usage in the school curriculum.

Those mentioned standpoints were used as a base for improving the teaching process at ICT College Belgrade. Students of the second year from the Telecommunication department have attended during the first trimester of this school year 2012/13 the course "Digital telecommunications" where the teaching process has been enhanced with the usage of the Facebook social network.

In this paper are published the first results of the usage of social networks in the curriculum. The first part of the paper describes the starting assumptions about the usage of social networks in a teaching process, whereas some real experiences and conclusions are shown in the second part.

2. SOCIAL NETWORKS IN THE TEACHING PROCESS

One of the definitions of social networks is that they are web based systems which enable an individual to build up public or half public profiles within the mentioned system, to build up a list of connections with other users with whom they can exchange the contents and which can be used to broaden their connections with other users within the system. About the popularity of social networks speaks the fact that the most popular social network is Facebook, which had 1.2 billion users at the end of 2012 and that 98% of young people between 18 and 24 years of age are members of some social group. Besides Facebook some other social networks are popular as well, such as MySpace, Twitter, LinkedIn, Hi5, Badoo, SkyRock, Tuenti, StudVZ, Bebo. Some of the mentioned social networks are popular in the whole world (Facebook and Twitter), while the others are popular only locally (Tuenti in Spain, StudVZ in Germany, Bebo in England). Talking about Serbia the number of users follows the world`s trend and there was a slight increase during 2012. There are about 3,500 000 users of Facebook and YouTube which are the most popular forms of social networks in Serbia.

Presented facts were the reason to think about a possible way in which social networks could be used in a teaching process. Some additional facts have spoken in favor of implementing social networks in teaching process:

- Simplicity and availability of using social networks. In order to become a user of a social network you only have to possess an e-mail address and to fill in the entrance form on the appropriate Internet web page.
- It is free of charge and so are the most services and applications that are offered by social networks.
- It is possible to change and personalize the applications that are used in social networks.
- Distribution of multimedia contents (pictures, video clips, animations, graphs, texts) is very simple to most users. By using the appropriate applications it is possible to put different contents on the social network. Training process for using the application is set to the minimum.
- Getting a direct feedback about the contents which are put on social networks is possible by comments and posts.
- Easier and faster communication among users of social networks.

We have also taken into account certain aspects which are considered to be some possible drawbacks while using social networks in a teaching process.

- Since there is no validation of data which are to be found on social networks there is also a possibility to come across some contents and information whose accuracy is questionable.
- Users on social network may have different norms of behavior which can influence not only the individual but also the whole group on social network. Nonprofessional and incorrect behavior of participants on social networks, posting or uploading some contents and comments which can be found offensive by others, putting on some contents which are not connected with a topic or teaching domain, which is to be studied, or a deliberate exhibiting some false data are just some of potential forms of behavior, which should be prevented or at least reduced to a minimum.
- Since students consider Facebook as an informal way of communication, it should be put into accordance with the professors` communication with the students attending the course, and it should also fit into the social network.

Besides above mentioned some other questions occurred: Are the students going to accept Facebook as an integral part of a teaching process and is the use of Facefook going to motivate students more during their learning process?

3. **IMPLEMENTATION**

During the first trimester of the school year 2012/13 students at the ICT College Belgrade, who were attending lectures for the subject Digital telecommunications, were given the opportunity to use Facebook during the course. There were 69 students of the second year from the department Telecommunications. Most students were aged 20-25 (81%). All students have judged their computer skills as “appropriate” or “advanced”. On a daily base each student spent between 2 or 4 hours working on a computer (54%) and mostly in the evening after 8pm (53%). Most students used Internet as a means of communication (69%), for getting information (58%) and for entertainment and fun (53%). Regarding social networks 83% of them have had an access to Facebook, and 17% on Twitter. All other social networks were represented insignificantly.

Students who were following the course were obliged to follow the course in the electronic form besides lectures and lab classes. On the educational portal www.e-studije.com was given the platform for a distance learning as well as an appropriate course “Digital telecommunications”. Within the portal students would read versions of e-lessons and after that they would fill in the reports and solve the tests at the end of each unit. Besides that, students sent a friend request on the Facebook to a “friend” account called “Digitalne TK ICT škola”. The given account was made by the appointed professor. To ensure that activities on this Facebook account will be followed only by students attending the course the Facebook account was made as a personal account, and not as a fan page. Students have been involved in Facebook in two different ways:

1. They were offered to get additional points on their pre-exam obligations through the activity on Facebook. The professor would give them each week two assignments/problems based on the e-lesson presented on the educational portal. Those students who gave answers in a time frame got points for correct answers. Such Facebook activity was not obligatory for the students,

nevertheless it was expected to be popular, due to possibility to get some extra points as pre-exam obligations.

2. he other activity on Facebook was based on following the photo album which contained photographs of blackboards with lecture notices. During the lecture the professor would make photographs of all written blackboards with his camera. Then the whole lecture in the form of written blackboards was put into the photo album on Facebook. Students were asked to give a "like" sign for photos containing extremely important facts from the lecture helping them to understand the teaching material. Students could also ask some questions using appropriate blackboard photos concerning the content on the photo.

During the process itself we came to the following conclusions:

1. Since the questionnaire has shown that most students sit at their computers after 8 o`clock in the evening we have come to an agreement that students should regularly check the course Facebook account between 8 and 9 o`clock in the evening on workdays. During the week, on two evenings, the professor would post assignments in the appointed time frame. Students who had chosen the course account settings to be Close Friend with their own account got notifications about all happenings and posts on the course account automatically. Assignments were put together with an appropriate photograph on the course account wall, and students gave their answers by writing posts. It was previously planned that only 15 quickest students with correct answers should get points. The idea was to develop competitive spirit among participating students. When the professor was checking posts/answers latter on, first fifteen students` posts with the correct answer were given a "like". That way students got informed that they had given right answers and got points. If students were giving more answers, only the last written was taken into account for grading.

   Performing those activities two problems occurred. First problem was the time for setting assignments because it did not suit students, so the time for setting assignments was moved to 9:30 till 11:30 in the evenings on workdays. Second more serious problem occurred when some participants started to copy posts of those students who had first given their answers. It was proved that more hardworking, diligent and more ambitious students (professors used to call them "better students") accepted this kind of knowledge checking via Facebook gladly. Such students used to give answers first, and after that a great number of other students would just copy their answers. Certain number of those who had copied the answer managed to enter among the first 15 students with a correct answer and got points for that. On the other hand, there were some students who were not copying the answers and they were in a worse position because they did not manage to enter in the list of first 15 correct answers and they did not get any points for their activity. After the second week when this problem became obvious, professors tried to prevent that bad praxis, giving each student differently formulated assignment which was unique. That was achieved by personalizing assignments` parameters, because the assignments` parameters were connected with the student`s unique index number. This approach partly solved the problem of copying the answers but it also influenced the number of participants in this activity. In the first week 76% of course participants were taking part in answering the assignments, in the second week 63%. After the changes were introduced by defining assignments in a different way for each student, the number fell to 35% and that percentage stayed unchanged till the end of the course.

2. The second activity on Facebook was to follow the photo album which contained photographs of blackboards written during the lectures. The professor made a photograph of the blackboard together with the written content. After erasing the board, he would wrote on it further on and then made another photograph. Those photographs were then put on the Facebook course account and were used as some sort of a reminder for students what was done during the class. Students could write posts to a certain photograph, ask questions considering the content written on the blackboard, and those photographs which were considered to be essential for understanding the curriculum should have been given a "like". This way the professor got feedback information where he should have paid more attention during his lectures and which segments should have been potentially extra explained during the classes.

   The idea of making photographs of some parts of lectures originally came from a project SensCam which was performed by Microsoft. The project included keeping a photo diary so that a camera that was around a neck of a questioned person periodically notified happenings during the day of one individual. On the base of collected data it was concluded that certain photographs, which were at the end of the day analysed, caused certain emotional response and were responsible for creating a better memory impression of certain events. It was expected that the photographs of the lecture boards should similarly bring the curriculum closer to students and remind them to the lecture itself. Additionally the working atmosphere during the class was photographed, too, which should amplify the emotional response of students and give them satisfaction by using Facebook for their personal presentation. Research done by Special & Li-Barber (2012) has stressed out the need for personal presentation as one of the main motivating factors for using Facebook.

At the end of the term the questionnaire was given in which students were asked to express their attitude about the use of the social network Facebook in a teaching activity. The questionnaire was performed by the use of a Facebook application for conducting such questionnaires.

There were four questions in the questionnaire in which students were asked to express their personal point of view about the usage of social network Facebook in a teaching process in a way it was done during the course "Digital telecommunications". Positive attitude about it hat 81% of students.

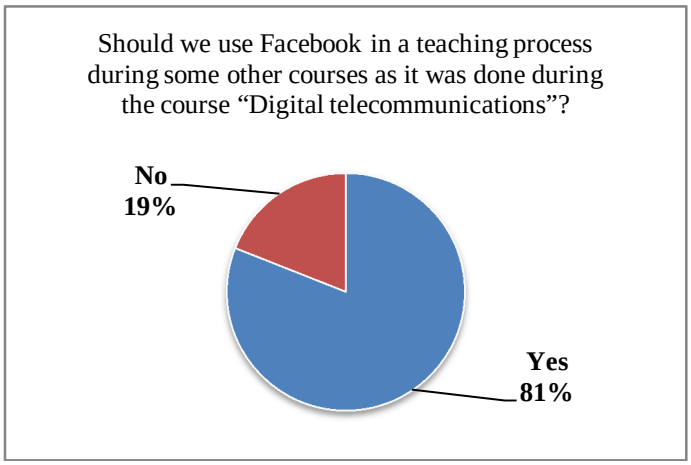

Fig 1. General impression on usage of Facebook in a teaching process

ISSN 1313-2571, Published at: http://www.scientific-publications.net

Even 92% students claimed that contents which were offered on Facebook helped them to understand better the curriculum.

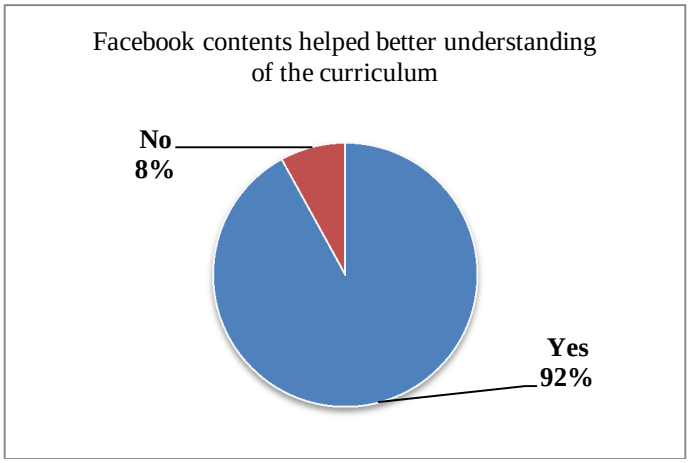

Fig 2. Impact that Facebook contents had on better understanding of the curriculum

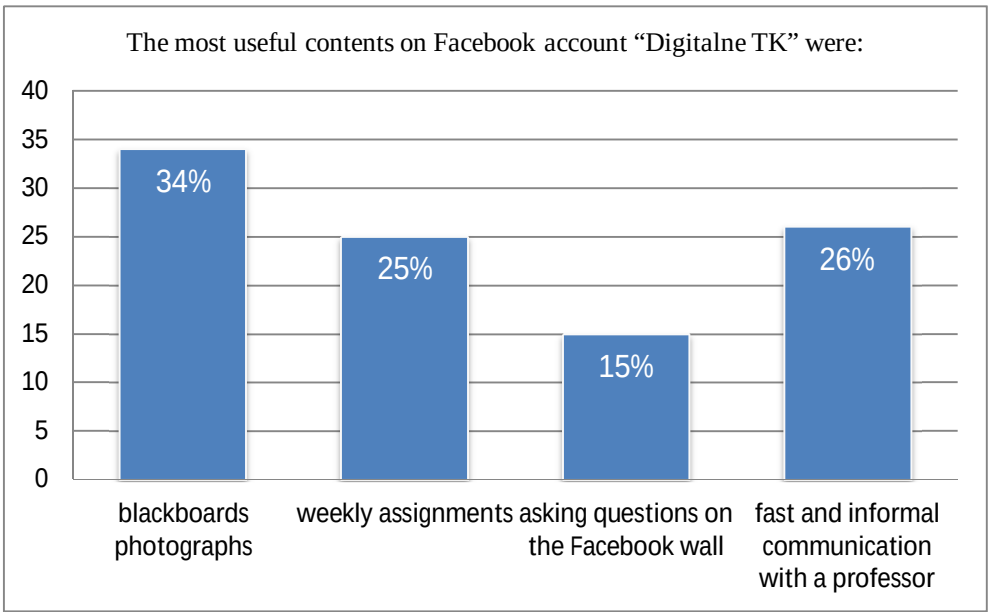

Fig 3. The most useful contents on Facebook

At the end of the questionnaire students could add their comment about positive and negative aspect of using the social network Facebook in a teaching process. It is interesting that they have pointed out good communication with a professor and an easy way of getting necessary information, not only from their fellow students but from their professors as well, to be a positive aspect.

4. CONCLUSION

Regardless the fact that this research has comprised the small group of students, the obtained result are of great importance. It was deduced that students have got a positive attitude towards the usage of the social network Facebook in a teaching process. The stress was set on communication and exchange of information among students and their professors. This conclusion is encouraging and gives further guidelines on how to use and develop future capacities for using social networks. It has been planned that to continue to use Facebook in a teaching process for the course "Digital communication" in the next school year at ICT College in Belgrade. Some drawbacks will be eliminated at the beginning due to obtained experiences. It is expected that new results will enhance the teaching process additionally and that they will help use capacities offered by social networks in the curriculum even better.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

INQUIRY BASED EDUCATION AT PRIMARY SCHOOLS THROUGH SCHOOL GARDENS

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Abstract

Multiple recent studies point towards an alarming decrease in the numbers of young people interested in the natural sciences. We can see that for the natural sciences to be reborn as an attractive field of study, we need to change the approach to the teaching of the natural sciences, we need to change the content, the form and the methods of teaching, we need to emphasize the interdisciplinary connection of findings and the developing of individual and creative approaches. Currently, multiple initiatives are running throughout Europe, attempting to re-establish the education of science through inquiry based learning.

To start with the inquiry based education following subjects seem to be ideal - geology, physiology of plants, physiology of animals and humans, ecology, plants cultivation from the view of applied botanics. The ideal space for exploration oriented approach could be school gardens especially when we consider the quantity of material to be found there and to be researched.

Key words: *Education, Inquiry based learning, School garden*

RESEARCH SUBJECT

To determine the status of school gardens in the Czech education and to analyse possibilities and prerequisites of school gardens for inquiry based education at the infant level of primary schools.

INTRODUCTION

According to Abel, Smith and Volkmann (2004), Shipman (2004), Osborne and Dillon (2008) or Korthagen (2011), in recent years the field of natural sciences registers slow recession of so far prevailing deductive education and accession of the inquiry based education (IBE) with the emphasis on "hands-on "activities (Bell, 2008), while IBE also represents a teaching strategy as well as a pedagogical process model (Bybee, 2004). It is a didactic style that originated in United States of America in 1950´s (DeBoer, 1991). In Europe the said pedagogical trends emerged at early 1990´s (Vohra, 2000). From among Czech-language literature we may point out the translation English-Czech dictionary (Mareš & Gavora, 1999) in which we may find the "inquiry teaching" phrase, which is translated as teaching through exploration (Janík & Stuchlíková, 2010). Linn, Davis and Bell (2007) perceive IBE as a didactic process in which the teacher does not pass the subject matter in a finished form, but individual pupils acquire knowledge through solving a particular problem. Therefore they work in a similar manner as in a real-world research (Papáček, 2010). They assume the initiative in observation, measurement and experimentation, develop procedures to support or confute set hypotheses, analyse the data obtained and draw conclusions (Rocard et al., 2007). Such methods

ISSN 1313-2571, Published at: http://www.scientific-publications.net

positively affect the self-esteem, motivation to further learning as well as collegiality among students (Bell, 2008). Therefore the aim of IBE is to provide pupils and students an understanding of what the (natural) science is (Janík & Stuchlíková, 2010).

Teachers applying IBE are actually kind of pupil learning facilitators (Schwarz & Crawford, 2004), act as a guide responsible for the conduct of the teaching process and are the key element in the classroom. Limited knowledge and experience in the field of scientific literacy then prevent teachers in implementation of the inquiry based teaching (Gallagher, 1991). According to Petr (2010) selected tasks of the Biology Olympiad (BiO) are appropriate for this kind of teaching. BiO task or series of tasks require a different approach to the solution than the often applied standard system of questions and answers. The competition tasks lead pupils to apply more demanding intellectual operations. These are the same operations that form basis of IBE.

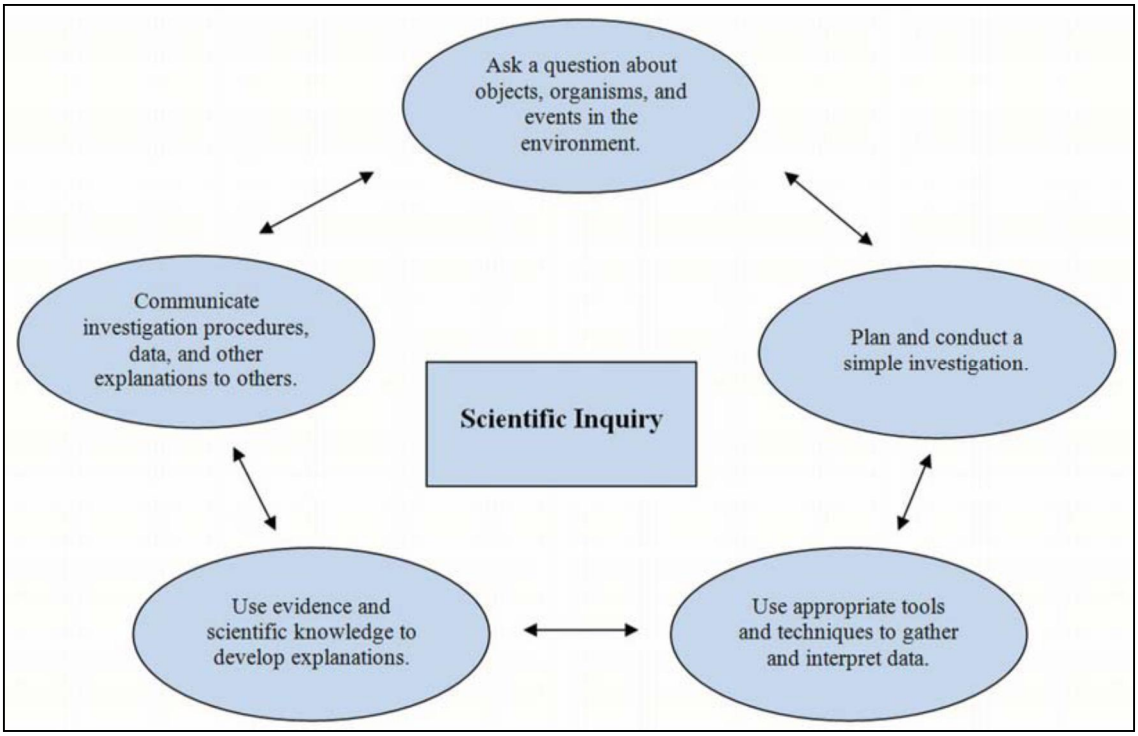

Fig. 1 Inquiry based education

Source: Carin, Bass and Contant, 2005

Inquiry based work methods in natural science education are very important formative element in pupil's learning about the real world. Already at the infant level pupils should be able to recognize simple problems, suggest solutions and then implement them in practice, discuss problems and solutions suggested with classmates, apply observations, measurements and use simple devices, distinguish natural objects and man-made elements, describe basic life cycles, organisms and the environment in which they occur (Výzkumný ústav pedagogický, 2007). However, in teaching natural science subjects it is important to establish a balance between theory and empirical exploration as to fully develop pupil´s

exploration in natural science education, i.e. both in terms of theory and experiment (Janoušková, Novák & Maršák, 2008).

Edelson, Gordin and Pea (1999) consider the main advantages of IBE the development of critical thinking, improved understanding, acquisition of skills in scientific principles as well as the ability to search and discover in particular. These authors identify level of existing knowledge and skills of individual pupils, required for exploration the main difficulty in IBE implementation, as well as time-consuming use of exploration elements in teaching and inadequate material resources available to individual educational institutions.

The following fields of education are probably best suited for the first steps of IBE implementation: geology, plant physiology, animal and human physiology designed with model invertebrate organisms and pupils (man) as the studied objects, ecology and environmental issues as well as plant growing from the perspective of applied botany and plant physiology (Papáček, 2010).

The ideal IBE space could be school gardens, particularly due to sufficient amount of experimental material and space. At present, their application in the educational process is unfortunately limited, though they provide an irreplaceable environment for simulation of the real world and a space for field teaching application near the elementary school buildings.

Many authors (e.g. Smith & Motsenbocker, 2005, Robinson & Zajicek, 2005, Cutter-Mackenzie, 2008) perceive school gardens as a modern educational tool and strategy that enables teachers to integrate practical activities to their teaching in a variety of interdisciplinary areas. They provide a dynamic environment in which students are involved in observing, exploring, experimenting and are subject to educational and learning process. Garden is a living laboratory where real-life experience is acquired more vividly than through examples in textbooks, allowing students to become active participants in learning.

The current Czech concept of education "Framework Educational Programme for Primary Education" and the application period of the "School Educational Programme" provide teachers unique opportunity to integrate elements of IBE and school gardens into the teaching process, not only in natural sciences. It turns out that in this way pupils may deliver the expected outcomes and gain key competencies in a friendly form at the cognitive, attitudinal and activity levels (Horká, 1996).

PRESENT RESEARCH ON THE USE OF SCHOOL GARDENS

The Chaloupky centre of environmental education conducted an extensive and unique focus questionnaire survey through email correspondence within the Czech Republic in 2004 and 2007. The intention was to reach all 4253 primary and special schools, of which they managed to contact 3807 (90%). In total 486 completed questionnaires returned. A total of 80.5% of the participating primary schools owned a school garden. The remaining 19.5% consist of 13.1% of schools, which previously owned the garden, and 6.4% of schools that never had a garden (Burešová et al., 2007). We tried to follow this research project. The aim was to obtain current information about the use of school gardens in different areas of education in 2013, i.e. at the time when school gardens are no longer seen as purely growing gardens and wide range of applications is considered. Current research works in the world (e.g. Graham et al., 2005 and Gould Group, 2008) point to a growing trend of support for use of school gardens in school environment.

ISSN 1313-2571, Published at: http://www.scientific-publications.net

RESEARCH METHODOLOGY

Data was collected through a questionnaire survey and analysis of educational programmes of individual schools with regard to inclusion of activities implemented in or available for school gardens at the infant level of primary schools. Data collection was affected by the negative trend in the Czech environment in unwillingness of schools to participate in the survey. Therefore sending questionnaires in email form was stopped. Questionnaires were completed by teachers at the infant level of primary schools always during personal meetings with the authors. This factor had an impact on lower number of cooperating schools. The fact that most teachers at the infant level of primary schools are women affected the gender representation of (95% of the sample were women). It was a so-called selection available.

The questionnaire contained 17 questions and was divided into 6 areas: a) identification, b) general information about the school garden, c) the use of school garden in teaching, d) further use of school garden, e) inquiry based education and f) questions for schools which do not have school garden available for use. The research tool was created by modifying questionnaires of the Chaloupky centre of environmental education (Burešová et al., 2007) and Gregory and Fisher (2011) for research in the state of California. The questionnaire was pilot tested by randomly selected 20 teachers at the infant level of primary schools and subsequently adapted into a final form. Data was collected from October 2012 to March 2013. Personal approach to individual teachers provided 100% return of completed questionnaires. In total 62 teachers from 62 primary schools cooperated in the survey. The sample included both teachers beginners (1st year in practice) and on the other hand teachers with years of experience (maximum specified time of practice was 36 years). The average experience of the respondents was 11.6 years.

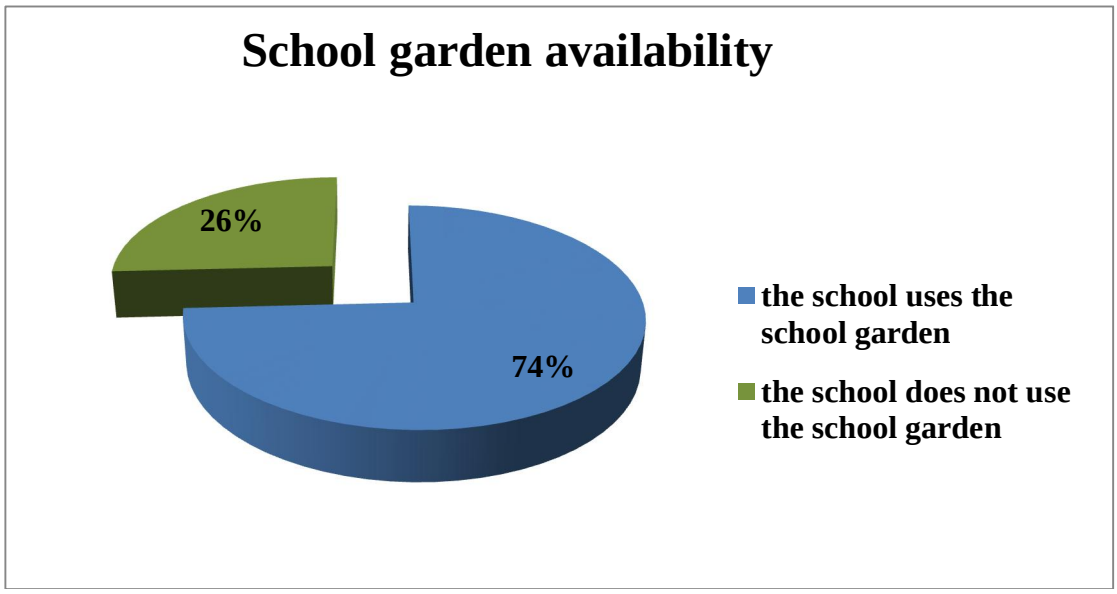

Fig. 2 Availability of school gardens

RESULTS

School garden are available to 46 schools, a full 74% of respondents. Only 16 (26%) schools do not own a garden. From that nine schools (14.5%) had a school garden in the past and 7 schools (11.5%) never used a garden. Vast majority of gardens (44) is situated on campus. The other two schools have school gardens located within 10 minutes' walk from the school building. School gardens so provide a well-accessible place for potential implementation of field education.

The school garden areas is less than 100 m^2 in 6 schools, 22 schools own school garden of the size ranging from 100 to 500 m^2, 13 respondents use as a school garden of the area of 500-1000 m^2 and the remaining 5 schools have available a garden that covers more than 1,000 $m^{2.}$ Larger gardens surely provide sufficient space for experimental purposes, however smaller gardens may substitute missing equipment of schools and simulate a living laboratory suitable for applications of experiments, observations and other activities supported pupil's active involvement in education.

Teaching in the school gardens

Stable number of hours dedicated to teaching in the school garden is set in 43.5% of schools, and the remaining 56.5% of participating schools do not have a set stable number of hours for teaching in the school garden but in most cases they use the garden within individual subjects as needed for teaching and the discussed topic. 97.8% of the schools that have a school garden available use it for teaching at least one subject. Only 2.2% of addressed schools that own a school garden do not use its environment for learning purposes.

In the Czech Republic each school develops its own educational programme, which is based on the Framework Educational Programme (FEP). This fact allows incorporation of school garden environment into teaching in different sectors of education. At present, the subjects are classified in various areas of education. There are seven areas defined for primary schools: 1) Language and Communication, 2) Mathematics and Its Applications, 3) Information and Communication Technology, 4) Man and His World, 5) Man and World of Work, 6) Arts and Culture and 7) Human and Health. Use of school gardens in the above mentioned areas of education in the schools involved in the research is very diverse. School garden is mostly used in teaching in the educational areas of the Man and World of Work (84.7% of schools), Man and His World (69.6%), and Human and Health (65%). School gardens are used especially to teach subjects integrating soil science, its origin and development, minerals and rocks science. In the field of wildlife the topics include in particular essentials of life and indications, body structure and importance of plants, fungi and animals as well as environmental protection. However, the survey showed that also in other educational areas teachers at primary schools more or less use the school gardens for teaching.

ISSN 1313-2571, Published at: http://www.scientific-publications.net

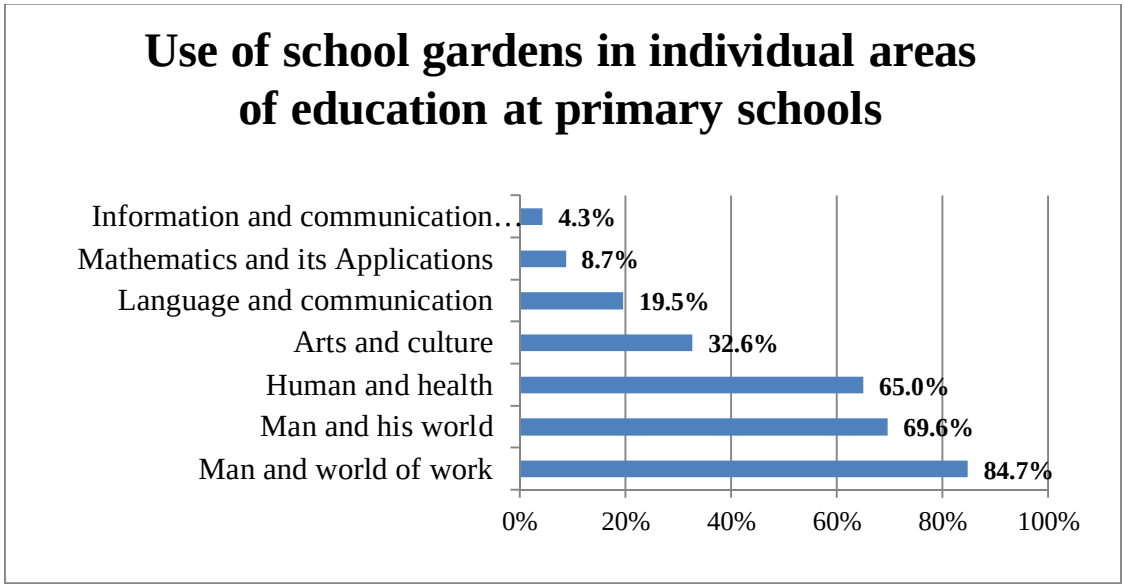

Fig. 3 Use of school gardens in individual educational areas

Amenity	**frequency of occurrence**
Department of ornamental plants	30
Compost heap	29
Vegetable department	24
Orchard	20
Greenhouse	20
Natural classroom	18
Department of medicinal plants	16
Other	12
Dry habitat (rock garden)	8
Beetle field	6
Aquatic habitat (pond)	4
Weather station	4
Geological trail	3

Tab. 1 School garden amenities

Amenities of school gardens illustrate the current trend. School gardens are no longer seen as purely growing, but allow a wide range of applications in all areas of education, especially in educational areas

defined by FEP, Man and World of Work, Man and His World and Human and Health. Among additional amenities of school gardens the schools indicated so called insect hotel, heath, tactile path, sundials, bird and bat boxes, feeders or sports field. This results in greater potential usability of school gardens for other activities.

Another section of the questionnaire was designed to determine awareness of primary school teachers about IBE. When asked whether they know the concept of inquiry based education 32 teachers responded positively (52%). 30 (48%) respondents have not heard about the inquiry based education before. The results may be interpreted that the general knowledge of inquiry based pedagogical approaches gets into awareness among teachers in the Czech Republic but have not yet fully reached the primary schools.

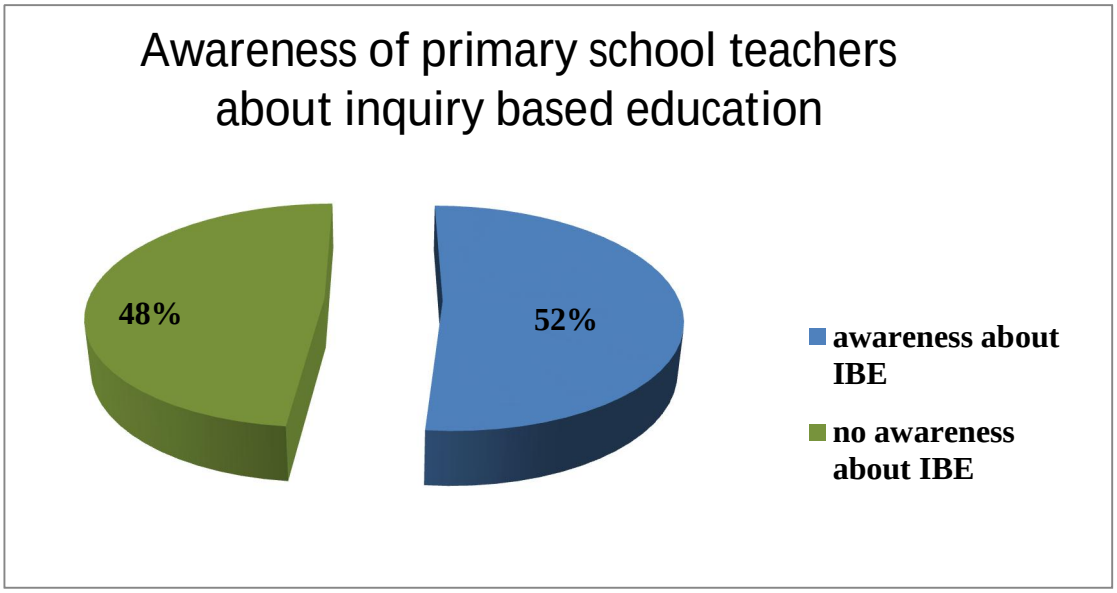

Fig. 4 Awareness of Czech primary school teachers about IBE

Most teachers received information about the IBE through university studies. They are particularly junior teachers who have completed university studies in recent years and learned the current trends in the field of natural sciences at the university. Senior teachers who reported that they are aware of IBE received the information at university within lifelong learning programs. The second most frequently indicated source of information about IBE is the Internet. 28.1% of teachers learned about IBE from their colleagues, 12.5% indicated seminar aimed at IBE primarily organized by the University of South Bohemia in České Budějovice and Masaryk University in Brno during the IBE Summer Schools, 12.5% of teachers received information from literature.

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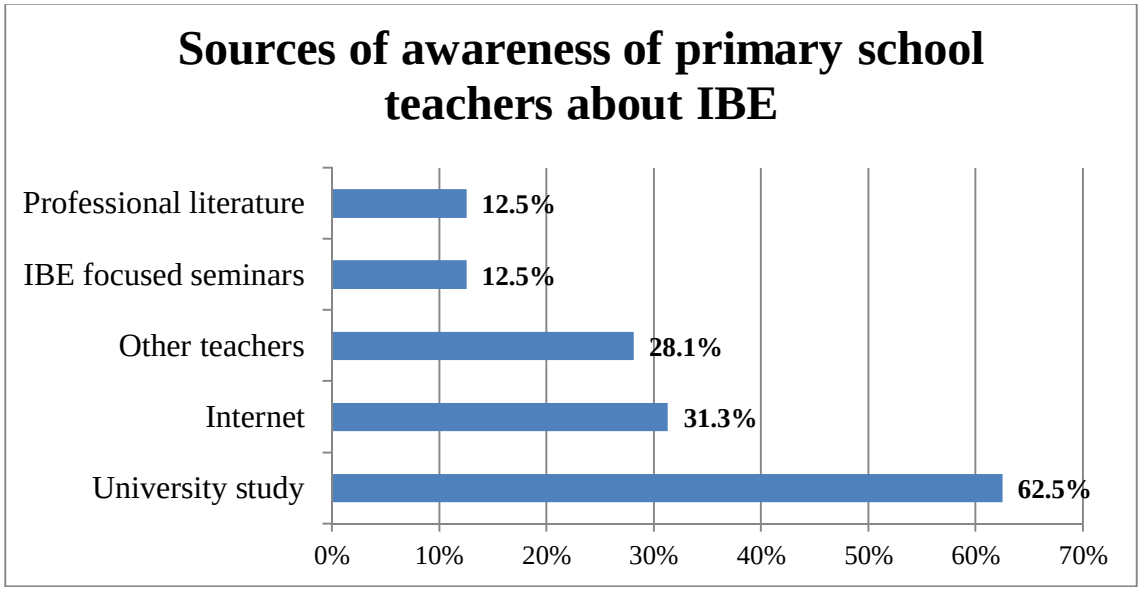

Fig. 5 Sources of awareness of primary school teachers about IBE

60% of respondents indicated lack of resources (labs, tutorials ...) as a main obstacle in inquiry based education implementation, while 56.7% of respondents indicated time-consuming research activities, 35% professional development in IBE, 15% little support in curriculum documents and 3.3% currently discussed natural science topics.

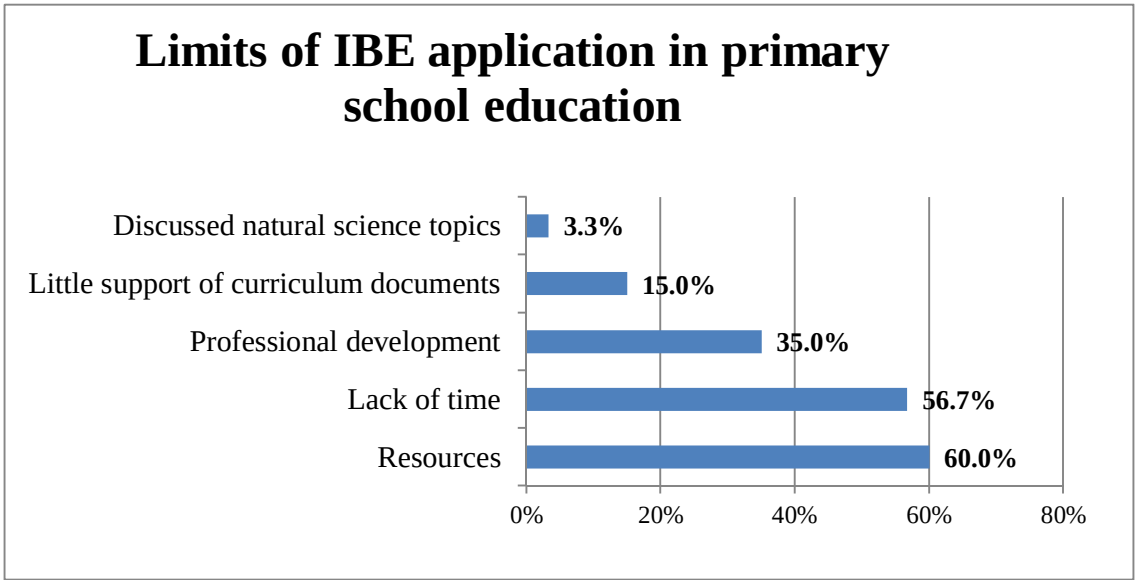

Fig. 6 Limits of IBE application in primary school education

Of 62 respondents 58 (93.6%) believes that school gardens provide a suitable potential for application of IBE elements, only 2 (3.2%) responded that school gardens are not appropriate for implementation of IBE elements and 2 respondents were not sure. These results correspond with the assumption that environment of school gardens provides a suitable environment for IBE application. The Man and His Word, particularly scientific observations in natural environment seem to be the most appropriate area for application of IBE elements in the environment of school gardens. Currently, the five schools whose teachers indicated in the survey that no school garden is available to them for use even consider establishment or restoration of their school garden. The main reason is the current trend of transition from pure growing function of gardens to their wider use in education.

DISCUSSION AND CONCLUSION

When comparing the current survey with the one undertaken by Chaloupky environmental and ecological centre in 2007, we observed a reduced percentage of schools that use school gardens. In 2007, this figure exceeded 80%. In our survey 74% of participating schools responded that they use a school garden. These results do not correspond to international surveys which indicate increased use of school gardens in education (e.g. Graham et al., 2005, Gould Group 2008). A possible explanation may be the fact that the survey undertaken by Chaloupky environmental and ecological centre in 2007 was conducted via electronic questionnaires. It can be assumed that the preferably representatives of schools that use a school garden responded to the e-mail inquiry. This may explain the higher percentage of schools using school gardens compared to 2013.

When comparing results concerning use of school gardens for educational activities both surveys provide similar data. In 2007, 40.2% of respondents indicated that a stable number of hours dedicated to teaching in the school garden is set in their Educational Programme and 56.3% of schools responded negatively. Current data reveal that 43.5% of schools have a stable number of hours dedicated to teaching in the school garden, comparing to remaining 43.5%. Both surveys have shown that the gardens in the Czech environment are used in all educational areas. Gardens are most frequently visited by pupils within the Man and the World of Work educational area. However, when compared to 2007, its share is declining in favour of the Man and His World and Human and Health educational areas. This finding is consistent with the results of Graham et al. (2005), which highlights the enhanced use of school land.

Looking at inquiry-oriented activities realized or realizable in the environment of school gardens we identify certain tendencies within the research which we will now try to interpret. In specification of activities suitable for teaching in school gardens respondents indicated particularly educational topics such as: soil science, its origin and development, minerals and rocks science. In the field of wildlife the topics include in particular essentials of life and indications, body structure and importance of plants, fungi and animals as well as environmental protection. When asked in what areas of teaching the inquiry based education elements would be the most appropriate to apply most teachers answered that in the area of the Man and His World, i.e. the area of teaching about both animate and inanimate nature. From these results we may certainly point out at least the theoretical potential of appropriate linking of school gardens and IBE, which corresponds to the view of the 58 respondents out of 62, who stated that school gardens are a suitable environment for application of IBE elements.

The most frequently mentioned obstacle in implementation of IBE elements is lack of resources of individual schools, including laboratories, teaching materials, simple devices. Yet according to Robinson and Zajicek (2005) or Cutter-Mackenzie (2008) school gardens represent a living laboratory providing gaining of real-life experience more vividly than from examples in textbooks, while the

gardens are able to provide a lot of experimental material and the necessary space. This phenomenon is currently supported by a higher proportion of built model habitats and features such as: geological trail, beetle field, insect hotel, weather station etc. Here we see another opportunity for proper linking of IBE and school gardens, which may at least partly substitute the missing resources in school buildings for certain educational areas.

The second element reported, limiting application of IBE elements, is the time-consuming character. From the very characteristics of IBE it is clear that these elements in education will require more time, both for teacher preparation and for the application, and that these elements cannot be applied continuously. However, at present, when performance of pupils and popularity of natural science subjects are decreasing (McKinsey and Company, 2010, Williams 2003), it is necessary to include at least occasionally forms of teaching in which pupils become their more active part. The reason is to make it more attractive and to enhance pupils' perception and understanding of the curriculum in particular. Beyond the fact that teachers indicate time as a limiting factor for IBE often stands rather excessive devotion to factual teaching and teachers' reluctance to move towards methods where pupils take over the lead in observations, measurements and experiments (Welsch, Klopfer & Aikenhead, 1981). In the survey 44 of 46 schools responded that their garden is situated within the campus and 2 schools responded that their garden is within a 10 minute walk, which means that occasional transfer of pupils from the classrooms to outdoor environment is not impractical and excessively time-consuming.

In conclusion we can say that the environment of school gardens constantly fights for greater attention within the educational process. Only time will show whether we are able to exploit the potential of school gardens which they undoubtedly offer, whether we will be able to get pupils partially from the classrooms and computer monitors to provide them learning in the nature at least occasionally. Doing so we will support perception of nature in pupil´s immediate vicinity that may have a positive impact on pupils to create a positive relationship to nature (Fenoughty, 2001). Inquiry based education elements then may help us to make learning more attractive and to encourage interest in natural science in general.

ACKNOWLEDGMENTS

The study was funded by a grant of the Grant Agency of the University of Bohemia GA JU 078/2013/S

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

PECULIARITIES OF STUDENTS' TIME PLANNING FOR SELF – STUDY OF MATHEMATICS AND PHYSICS

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Abstract

One of the essential parts of a learning process is autonomous studies including completion of individual assignments, search and studies of literature sources and group work. This part is completely controlled by the student. Independent learning takes a certain portion of student's time that is difficult to measure precisely. V. Tint's theory and the neoliberal learning paradigm grounds the conducted quantitative research based on the content analysis of the specially designed open-ended survey question data. The research results reveal that the success of autonomous learning depends on both the student and the teacher as they communicate and collaborate during the process of learning. The research has been conducted among students of social sciences and students of technological sciences to identify advantages and drawbacks of autonomous learning. The respondents distinguished several things important in autonomous learning: group discussions; planning and control of learning time; development of autonomy and an increase of self-responsibility. The identified drawbacks of autonomous learning include: technical and socio-psychological aspects, insufficient management of time devoted to learning as well as shortcomings in managing the training process.

Key words: *autonomous learning; planning of autonomous learning time; competences.*

The Bologna process has set a goal to make higher education a major contributor to the development of creative and innovative knowledge society in Europe by 2020. Europe's aging society faces a necessity to employ competences and abilities of its all citizens involving them into lifelong learning and higher education. Higher education institutions are instructed to reform their learning syllabuses to ensure the quality of studies. The Bologna instruments highlight the necessity for students to pay more attention to autonomous learning.

The aim of article is to evaluate students' ability to plan their time devoted to autonomous studies of Physics and Math.

The objectives of the study:

- to identify peculiarities of autonomous learning in high education institutions on the basis of the analysis of scientific literature;
- to estimate students' ability to plan their time devoted to autonomous studies of Physics and Math;
- and to identify advantages and drawbacks of autonomous learning.

The research has incorporated a review of the experience of higher education institutions in planning students' autonomous learning. The following research methods have been used when preparing an article: analysis of scientific literature, qualitative research and content analysis of the responses to open questions of a specially designed questionnaire. The research is based on V. Tint's (1975) theory stating

that autonomous learning is a key factor that determines learning results and duration. Dependence of learning results on learning duration and the duration of autonomous learning has also been estimated during the research. Interviews of the respondents were conducted online. Results of the research were processed by means of LimeSurvey, Microsoft Exsel 2010.

1. THE CONCEPT OF AUTONOMOUS STUDIES

Problems of autonomous learning are relevant as in the context of higher education they are associated with students' responsibility for the learning results. The neoliberal learning paradigm distinguishes the student as a major participant and client in the process of education (Olsen, Codd et. al., 2010). The neoliberal approach states that the individual and not the state or the community is responsible for personal education and adaptability in the labour market. Researchers in autonomous learning (Sinclair et al., 2000, Warring, 2010) tend to ascribe autonomous learning to general competences including an ability to analyze and reflect on individual learning. Researchers also emphasize that autonomous learning fosters development of self-sufficiency. However, the process is time consuming and sometimes requires specific training as well as learning management competences. According to S. Warring (2010), Sinclair B. et al. (2000), autonomous learning associates with such concepts as learner's autonomy, learning to learn and thinking abilities. S. Warring (2010) claims that autonomous learning is a process that allows a learner to independently acquire, analyze and critically assess knowledge. S. Warrning (2010) distinguishes four learning levels:

- the first level: unable and unwilling (poor competences, low motivation, low level of self-confidence, reluctance to take responsibility);
- the second level: unable but willing (poor competences, high motivation, high level of self-confidence);
- the third level: able but unwilling (developed competences, low motivation, low level of self-confidence, shared responsibility);
- the fourth level: able and willing (developed competences, high motivation, and full responsibility).

Lithuanian researchers also expose interest in autonomous learning. G. Gedvilienė et al. (2012) distinguishes partial and full autonomy of learning. The authors state that full autonomy occurs only when the learner independently plans, chooses and implements learning strategies. Partial autonomy is described only by the implementation of autonomous learning strategies. The authors also distinguish factors impeding autonomous learning: *excessive or insufficient control by the teacher, lack of autonomy or self-confidence and insufficient resources.* Negative factors also include *excessive workload, irrelevant pace of training* and other aspects associated with poor *quality of training.* According to S. Budrienė et al. (2011), autonomous studies is a constituent part of the training process, that comprises completion of various tasks, written assignments, reading of literature sources, project work, etc. and is the most complicated to measure in terms of time it takes. The authors highlight that the time devoted to autonomous studies depends on the complexity of the subject to be studied. Techniques of estimation of the time taken by autonomous studies normally include a questionnaire or a workload planning table where students indicate actual time spent on studies.

2. EXPERIENCE OF AUTONOMOUS LEARNING RESEARCHERS

Surveys reveal that some students face difficulties in planning time allocated for autonomous studies. The problem of planning was spotted by J. R. Tanner et al. (2007) whose research revealed that most students who claim their autonomous studies take 13.31 hours a week actually study only for 11.65

hours. Research done by C. Wetzel (2007) reveals positive aspects of autonomous learning: learning from own mistakes, time planning, autonomous search of sources, favourable conditions to reflect on own examples and independent assignments.

L. Harvey (2008) claims that studies are not a consumer service as they constitute a complex process of personal development that involves both the students, teachers and scientists. The author also highlights that a study process encourages students to think and perform independently.

Results of the longitudinal research by B. S. Grave (2010) carried out in 1986-2006 reveal that:

- duration of autonomous studies of men shortened from 14.683 to 10.269 hours a week until 2003 and increased to 11.966 hours a week by 2006, whereas the same numbers for women have fluctuated around 12.497 hours a week since 1997;
- bright students dedicate more time to autonomous studies, that is 13.050 hours a week, whereas autonomous studies of weaker students take only 11.349 hours a week;
- at the top of the list are students of engineering and sciences, whose autonomous studies take 13.507 hours a week; students of social sciences work autonomously 11.592 hours a week and students of arts and humanities allocate 10.724 hours for autonomous studies a week;
- students' approach toward autonomous learning is basically positive when they are given clear learning objectives and assessment criteria;
- mandatory attendance adversely effects students' motivation to focus on autonomous studies.

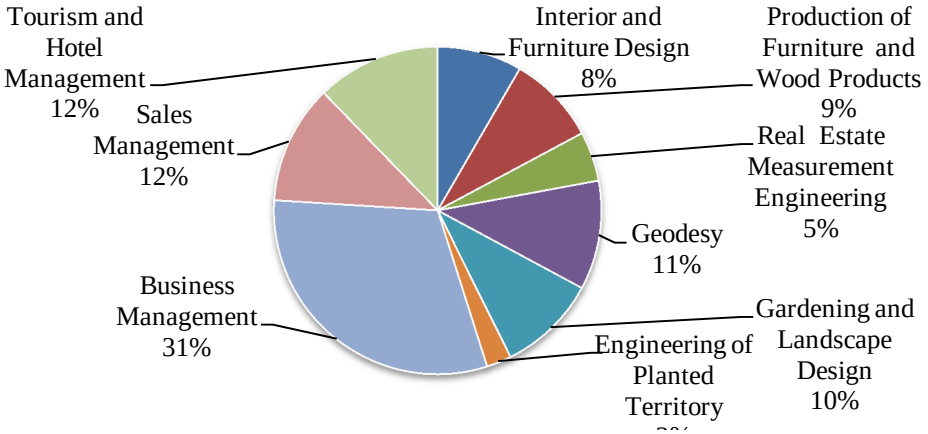
To sum up, it may be stated that the quality of autonomous studies depends on

- *teacher's abilities to manage the process of studies and relevance of tasks to be accomplished autonomously,*
- *students' readiness to study autonomously, ability to think autonomously, motivation and personal qualities including level of responsibility, capability and diligence.*

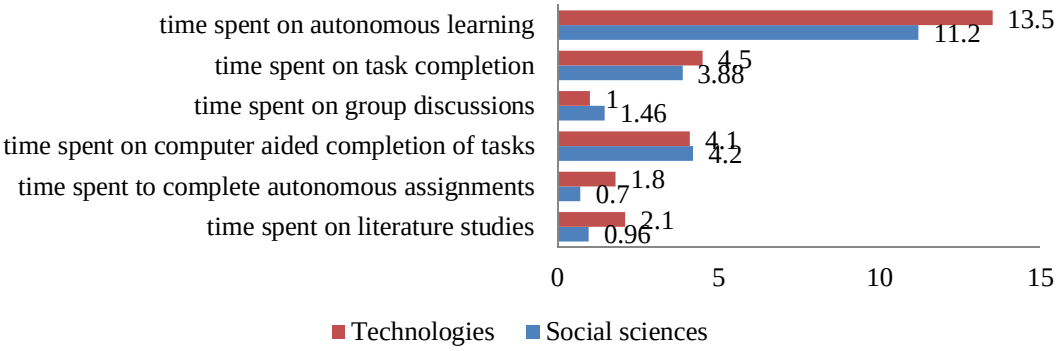
3. SUMMARY OF RESEARCH RESULTS

The quality research was carried out in March and April 2013. The research involved 252 first year students of Business Management, Technologies and Landscaping faculties from Kauno kolegija/ University of Applied Sciences. 45.1 % of the respondents study technological sciences and 54.9% study social sciences. The group of technological sciences included students of Interior and Furniture Design, Production of Furniture and Wood Products, Real Estate Measurement Engineering, Geodesy, Gardening and Landscape Design and Engineering of Planted Territory. The group of social sciences included students of Tourism and Hotel Management, Sales Management and Business Management. The majority of the respondents study Business Management (31%), whereas students of Engineering of Planted Territory took the least active part in the research (2%) (see picture 1).

Results of the research (see picture 2) reveal that students of social sciences allocate to autonomous learning 11.20 hours a week, including about 1.20 hours for Math studies, whereas students of technologies allocate 13.5 hours a week, including 1.38 hours for Physics and 1.29 hours for Math. The values are very similar to the results of the research by B. S. Grave (2010) (see chapter 2). Students of technological sciences spend most of the time (4.5 hours a week) on completion of individual assignments, whereas group work on individual assignments is paid least the time. Students of social sciences spend most of their time on computer aided completion of tasks and least the time on individual assignments.



Picture 1 Dispersion of the respondents according to training programmes



Picture 2 Dispersion of mean values of autonomous learning time (hours)

It has to be mentioned that all respondents learned Math at the secondary school at the advanced (A) or basic (B) level and only 34.80% of the respondents studied Physics during the entire secondary course whereas the remaining quitted the subject in the 10th form. Thus, their level of Math and Physics was lower than that of the students who studied the subjects at the advanced level at school. The research reveals that the students spend similar amount of time on autonomous learning of Math and Physics (see picture 3). 40% of the respondents in the group spend 1-2 hours a week on autonomous studies in Physics and Math, 30% of students study autonomously 2-3 hours a week and about 2% spend 4-5 hours a week on the subjects.

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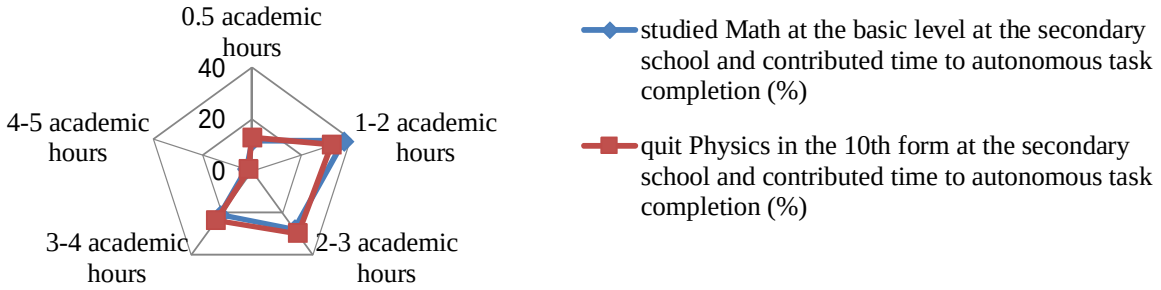
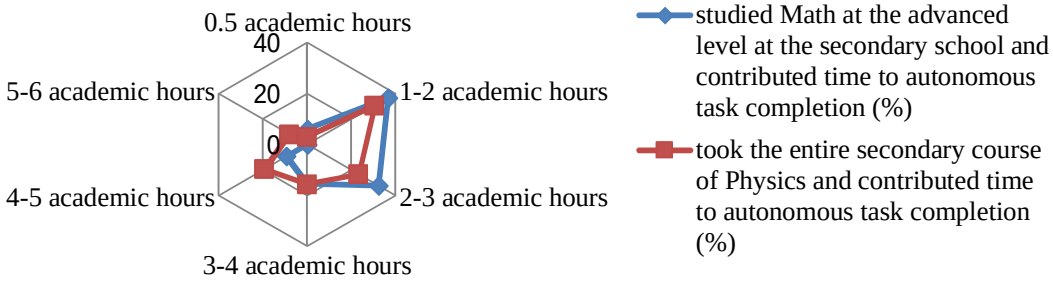


Picture 3. Dispersion of time spent on autonomous learning of Math and Physics by students who studied Math at the basic level at the secondary school and quitted Physics in the 10th form



Picture 4 Dispersion of time spent on autonomous learning of Math and Physics by students who studied Math at the advanced level at the secondary school and took the entire secondary course of Physics

Students who studied Math at the advanced level at the secondary school and took the entire secondary course of Physics expose better competences than the previous group (see picture 4). 40 % of them spend 1-2 hours a week on autonomous studies of Math and 30 % on Physics. Comparison with the previous group gives a discrepancy. 20 % of the advanced Math level students and only 2 % of the basic level students spend 4-5 hours a week on autonomous completion of tasks. 10 % of the advanced Physics level students spend 4-5 hours a week on autonomous completion of tasks whereas only 2% of the basic level students devote the same time to the assignments.

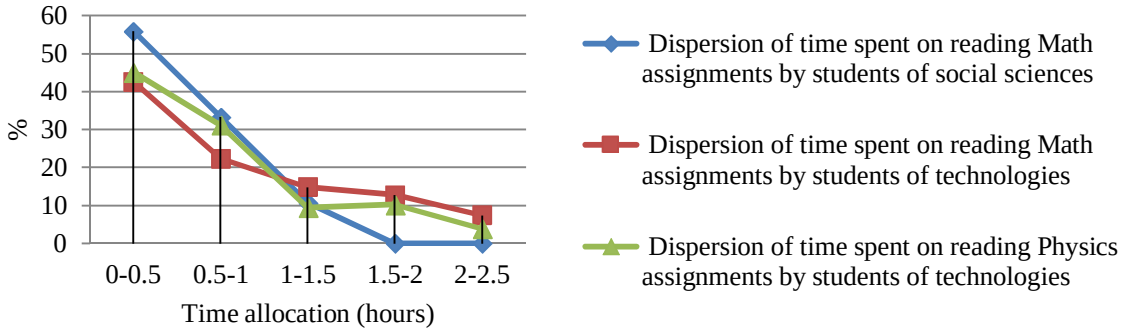
Table 1. Comparison of Math and Physics results achieved in the secondary school and the University (%)

	Math			Physics		
Grade	In the secondary school	University of Applied Sciences	Difference between grading at school and University	In the secondary school	University of Applied Sciences	Difference between grading at school and University
excellent	4.49	1.49	3	10.08	7.04	3.04
very good	11.06	5.77	5.29	21.17	5.63	15.54
good	10.22	13.43	-3.21	14.05	7.04	7.01
average	25	22.89	2.11	35.21	22.68	12.53
satisfactory	27.86	28.9	-1.04	13.36	22.68	-9.32
poor	21.37	23.93	-2.56	6.13	29.58	-23.45
failed	0	3.59	-3.59	0	5.35	-5.35

The comparative analysis shows that grading of Math and Physics differs in the secondary school and the University (see table 1). Higher grading of both Math and Physics prevails in the secondary school and lower grading is observed at the University. The research also reveals that grading of students who spend more time on autonomous learning is the same or higher at the University than in the secondary school. Similarly, lower grading in Physics is observed among students who quitted Physics at the 10th form. Very few students who studied basic level of Math at school receive higher grades of Math at Kaunas University of Applied Sciences,

During the research, the time spent on autonomous learning was divided into separate parts: 1) time spent to read individual assignments, 2) time for literature studies, 3) time for autonomous completion of tasks (i.e. problem solution, processing of data, etc.), and 4) time for group discussions.

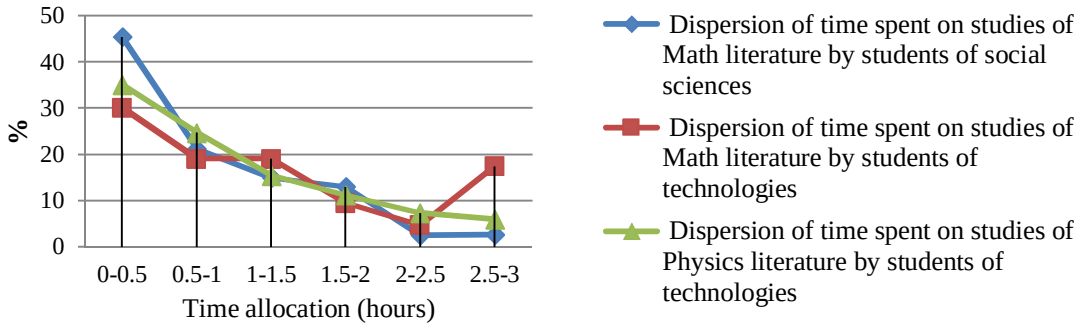
The research reveals that most students spend up to 0.5 hours for reading individual assignments in Math and Physics (see picture 5). Students of social sciences spend from 0.5 to 2 hours a week on reading individual tasks in Math whereas time spent on reading Math and Physics assignments by students of technologies varies from 0.5 to 2.5 hours a week. Students of lower level fall into two categories: those who spend only 0.5 hours on reading and those who spend more time. The latter include A and B level students whose Math and Physics grades at the University exceed average. The research also reveals that students of technologies spend more time on reading individual assignments than students of social sciences.



Picture 5 Dispersion of students according to time spent on reading individual assignments

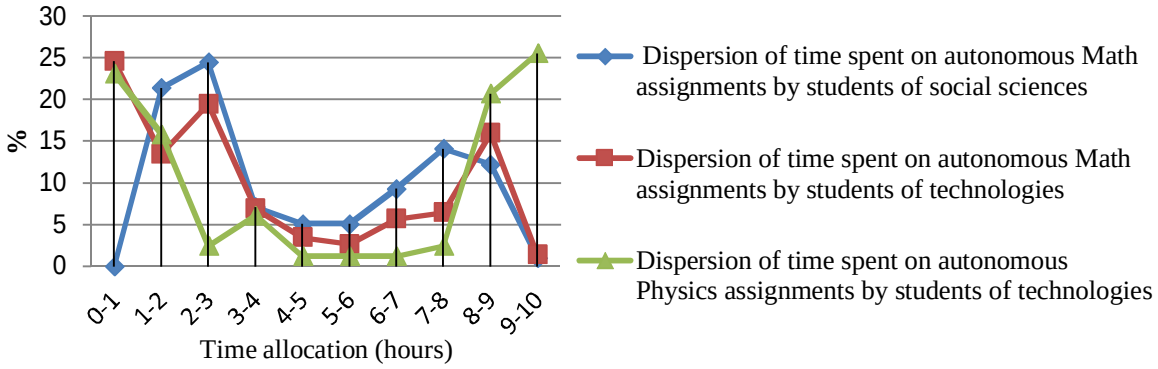
ISSN 1313-2571, Published at: http://www.scientific-publications.net

Comparison of time spent on literature studies (see picture 6) shows that students of both technologies and social sciences spend the same time of 0.5 to 3 hours a week on studies. The research reveals that 45% of students of social sciences spend only 0.5 hours on literature studies, 20% need 1 hour and less than 5 % need about 3 hours. Among students of technologies, 30 % spend 0.5 hours and over 15 % spend 3 hours a week on literature studies.



6 Picture Dispersion of students according to time spent on literature studies

The research reveals that students of social sciences and technologies fall into three groups according to the time spent on completion of individual assignments (see picture 7): group I spent 1 to 3 hours a week, group II spent 4 to 8 hours a week, group III spent 8 to 10 hours a week. Among students of social sciences, 25 % students spend up to 3 hours a week on completion of individual Math assignments, 25 % need up to 10 hours, and the remaining need 4 to 8 hours. Students of technologies spent similar time to complete individual assignments of both Math and Physics. However, a discrepancy has been observed among those who spent 2 to 3 hour a week on the assignments. This amount of time is taken by less than 5% students to complete tasks of Physics and by 20% to complete Math assignments.



Picture 7 Dispersion of students according to time spent on completion of individual assignments

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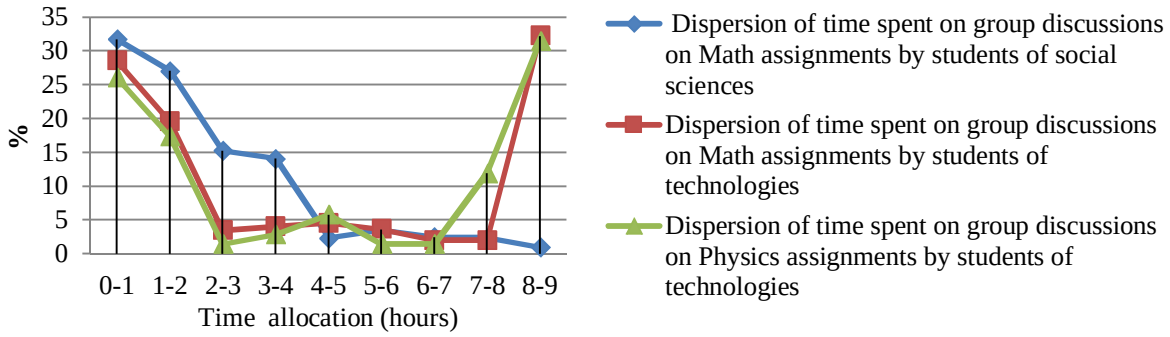

Picture 8 Dispersion of students according to time spent on group discussions

Comparison of time spent on group discussions shows that 30% of students held discussions on individual assignments for up 1 hour a week. However over 30 % of students of technologies needed up to 8 to 9 hours a week for group discussions on assignments of Math and Physics. Among students of social sciences, 30 % spent up to 1 hour a week on group discussions on Math assignments, about 25 % needed up to 2 hours, about 15 % needed 2 to 4 hours and less than % spent 4 to 9 hours a week.

Content analysis of the open questions has revealed positive aspects of autonomous studies in Math and Physics comprising opportunities to:

- *discuss in groups with peers*; that helped eliminate gaps in knowledge of Math and Physics (sample responses include: *"<...to understand quicker, to clarify >"; "<...to understand and learn new things.>");*
- *plan and manage time allocated for autonomous studies* (e.g. *"<...group discussions encouraged me to timely complete assignments...>"; "<...was afraid to have my name in the list of legging students.>");*
- *develop autonomy* (e.g. *"<...I had no choice but to complete my part of the task on time"; „I was responsible for graphs and I had to learn to complete them...>");*
- *boost personal responsibility level* (e.g. *"<...my group would have been given bad grades unless I had completed on time"; "I was responsible for ...>").*

Table 2 Obstacles in autonomous learning

Obstacles	Meaningful units	Interpretations
Students of social sciences		
Technical:	*"<Work on a computer; equations are difficult until you learn how to deal with them...>; <...poor background knowledge.>; <...took a lot of time to learn...">; <...use of Excel.">*	Insufficient computer skills, low level of Math knowledge.
Socio-psychological	*<"odds in the group. ">; <...mutual misunderstanding.>; <...arguments on certain decisions.>; <...difficult to work with new people ...>; <...problems of social laziness...>; <...arrangement of*	Insufficient social skills.

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	time within the group...>; <...felt shortage of knowledge, but I was embarrassed to refer to group mates or teacher.">.	
Shortcomings in the managing the training process	*<"too fast to grasp...>; <...failed to understand the task...>; "<...fail to understand and refuse to read as the scope is too big.">.*	Insufficient background knowledge causing • slow or very slow pace and • additional efforts to read sources
Insufficient time management	*< "...I expected to complete within a day..."; < "...failed to do it overnight, it took three...">*	Wrong planning of time prevents achievement of training results.
Students of technologies		
Technical:	*<"I took a basic level Physics and Math at school and did not expect I will need them...">; <...I quit Physics in the 10th form...">; <"...poor background knowledge...">; <"...insufficient knowledge...>; <...finding a solution takes too long...">; <"...short of knowledge...">; <...takes too long to find the right formula ...">.*	Insufficient background knowledge of Math and Physics. Unsuccessfully chosen subjects in the graduate forms without considering requirements of future studies.
Socio-psychological	*<"Odds within the group...">; <"...mutual misunderstanding...">; < "...arguments on certain decisions..."; <...difficult to work with new people ...>; <...problems of social laziness...>; <...arrangement of time within the group...>.*	Insufficient social skills.
Shortcomings in the managing the training process	*<"...fast pace...">; < „...heavy workload...">; "<... too much of everything...">; <"... too many formulas, difficult to read...">.*	Insufficient readiness of students to study technological sciences takes additional efforts of students to achieve training objectives set in Math and Physics study programmes.
Insufficient time management	*<"...failed to understand and therefore put the assignment aside...">; <"...got back to the task when the term was about to expire...">*	Insufficient time management skills prevent successful studies.

The content analysis of the responses allowed identification of obstacles in autonomous learning (see Table 2):

- *technical*, related to IT skills, necessary to accomplish set assignments, and low level of background knowledge of Math and Physics;
- *socio-psychological*, associated with deficiencies in communication skills preventing successful group collaboration, low level of the sense of responsibility, low motivation and other personal qualities;
- *shortcomings in managing the training process* associated with an irrelevant training pace used in classes and tutorials and improper preparation of tasks for autonomous learning;
- *insufficient management of time devoted to autonomous learning.*

The research validates that autonomous learning is a complex process incorporating a number of constituent parts that depend on student's personal qualities, developed abilities and readiness for studies in a chosen field. On the other hand, it is a challenge for the teacher, whose task is to communicate and collaborate with the student and create favourable conditions for the student to achieve learning outcomes.

4. CONCLUSIONS

1. Analysis of scientific sources reveals that autonomous learning is one of the most important parameters indicating the quality of training. The time the student allocates to autonomous learning depends on the individual level of student's background knowledge, motivation and personal qualities. The quality of student's autonomous work depends on the teacher's qualification and ability to manage and control the process of training. These are only a part of aspects that determine duration of student's autonomous work.

2. The comparison of the time students contribute to autonomous learning reveals that students of social studies spend less time on autonomous learning than students of technologies. Students who seek better training results spend more time on autonomous tasks than their peers. Part of the students who took the basic level of Math at school contribute more time to autonomous learning than their peers and achieve better results than those whose contributions are modest.

3. The research has revealed advantages of autonomous learning: *group discussions; planning and control of learning time; development of autonomy and an increase of self-responsibility.* The identified drawbacks of autonomous learning include: *technical and socio-psychological aspects, insufficient management of time devoted to learning and shortcomings in managing the training process.*

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

PROFESSIONAL DEVELOPMENT OF PEDAGOGUES: LITHUANIA IN THE CONTEXT OF EUROPEAN COUNTRIES

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Abstract

A new paradigm of learning raises higher requirements for a teacher: quality and effectiveness are the two key words defining the general education policy of the EU and the main objectives of the current period. It is not enough to be a good professional of own subject or have substantial pedagogical-psychological knowledge. Today teachers are required to be able to work in a multi-cultural environment, flexibly respond and adapt to changes, individualise and differentiate the content of education, and pursue various social functions (such as vocational counselling, conflict management, mediation etc.). Besides high professional requirements teachers are also required to participate in the continuous/further learning process including formal/non-formal professional development, self-education, and studies in state and private vocational training organisations not only within the framework of education but also in other spheres (this is recognised as an exceptional value). In view of this the Article raises the following questions: how the process of professional development is organised in various European countries? What professional development practices are applied in Lithuania compared to other countries?

Key words: *educator, professional development, competence.*

1. INTRODUCTION

The contemporary society has been constantly facing intensive changes in social, economic and organisational life, which, according to A. Hargreaves (2008), are in favour for people involved in large scale education reforms, since it is the first time when policy, practice and research specialists work together and learn from each other. Learning is a continuous process which is often related to focused modelling of own professional career. According to Ž. Grakauskas and A. Valickas (2007), the current concept of career is an integral part of lifelong learning. In other words, professional activity cannot exist without a continuous upgrading of professional skills.

Teachers, school leaders and teacher trainers are the key factors determining the improvement and development of education and teacher education system. Changes in the education system and society impose new requirements to the profession of teachers. Today teachers are required not only to convey the basic knowledge but also to help young people learn independently, i.e. acquire the main skills rather than memorise information; teachers are encouraged to use constructive and cooperative teaching methods and act as mediators and class tutors rather than authorised instructors (Rutkienė, Zuzevičiūtė 2009).

The Council of the European Union (hereinafter referred to as the EU), the EU Commission and other concerned European institutions highlight that high level teacher training and further professional development is not only a guarantee of success of the entire education system but also one of the main

factors ensuring economic-social welfare of Member States and sustainable development of these countries. Pursuant to the EU Council Conclusions of 26 November 2009 „On the Professional Development of Teachers and School Leaders", initial teacher education, early career support (induction) and continuous professional education should be treated as a coherent whole, since the initial teacher education cannot equip teachers with all the competences they will require during their careers (EU Council Conclusions On the Professional Development of Teachers and School Leaders, 2009). The same approach is applied in Lithuania.

One of the objectives of the National Lisbon Strategy Implementation Programme (2005) is to upgrade teachers' competences. In view of this, it is anticipated to „Prepare and submit to the Government of the Republic of Lithuania a draft National Reform Programme for Teachers Initial and Continuous Training and to implement the Programme (Official Gazette, [2005, No 139-5019]).

Pursuant to the Lithuanian Strategy of Securing Lifelong Learning (Official Gazette, 2008, No 122-4647), teachers should be provided with a possibility to continuously improve their professional skills. Par.13.2 of the document says that „*the main focus in the sphere of developing lifelong learning should be placed on continuing competence learning, which should be acquired by pedagogues engaged in all fields of education. This competence should also be developed by pupils as early as during the stage of general education.*" One of the main objectives of the Strategy of Securing Lifelong Learning is to create conditions for persons of different needs and abilities not only to acquire, but also upgrade "*qualification and competencies facilitating the placement and setting into the labour market, guaranteeing the progress of the national economy, its competitiveness and sustainable development*."

Development of pedagogues' qualification as the main factors of the Lithuanian education system is highlighted in the draft National Education Strategy for 2013 – 2022: „*education shall open the opportunities and propose various services facilitating the development of personal abilities based on professional qualifications and self-education, trust in own abilities, self-responsibility and responsibility for the community, the state and the environment*" (2012). In view of this the first objective of the Strategy is to develop the community of pedagogues consisting of reflecting teachers involved in the continuous education process and achieving good results.

Thus, for a teacher it is not enough to be good professional in his/her subject and have relevant pedagogical-psychological knowledge; today teachers are required to work in a diverse cultural environment, be flexible and adapt to changes, individualise and differentiate the content of education, and pursue various social functions (vocational counselling, conflict management, meditation etc.). Besides high professional requirements teachers are also required to participate in the continuous/further learning process including formal/non-formal professional development, self-education, and studies in state and private vocational training organisations not only within the framework of education but also in other spheres (this is recognised as an exceptional value), including travelling and learning from colleagues of other countries, experience sharing, and mobility between different education levels and institutions (e.g. university lecturers do the internship in school, whereas teachers work in higher education institutions, non-governmental organisations etc.). Professional development of teachers should be pursued in partnership with various institutions: state and private, education and business etc. Any professional development should provide a possibility to reflect own teaching practice and receive support for further activity. In their report (Teachers Matter: Attracting, Developing and Retaining Effective Teachers 2005) experts of the Organisation for Economic Cooperation and Development (OECD) raise a question on whether teachers have enough knowledge and skills to meet the needs of the current school; there are also major concerns about the limited connections between teacher education, professional development and school needs. According to

experts, compared to other professions, the profession of a teacher has faced minor changes, and teachers themselves are able to reflect on what and how they should learn in order to become better teachers. In view of this, they provide the list of qualities needed for „more effective teachers" (based on the analysis of the scientific literature and research): *professionalism:* commitment to do everything possible for each student, belief in everybody's ability to be effective and belief that all persons matter and deserve respect; *thinking/reasoning:* ability to see patterns and connections and recognise cause and effect; *expectations:* ability of setting and meeting challenging targets for students and the school; intellectual curiosity and drive to act now; and *leadership:* ability to see the context, adapt to the needs of a situation and change tactics; ability to set clear expectations and parameters and hold others accountable for performance; passion for learning, drive and ability to support students in their learning and to help them become confident and independent learners (Teachers' Professional Development 2010).

Thus, three main competences include: the ability to work with others, the ability to manage knowledge, and the ability to work with the society and for the society.

The EU declaring common education policy principles and defining teachers' competences, sets forth the following recommendations for national and regional education policy-makers:

1) to ensure *professionalism of teachers* by creating the conditions to acquire higher education or adequate high quality vocational training, or to acquire all the three degrees of higher education, including promotion of mobility and experience sharing.

2) *to consider professional career of teachers as an integral whole*: from the initial education to lifelong learning by means of formal, non-formal or self-education;

3) *to promote mobility of teachers* in all stages of their professional career;

4) *to promote cooperation and partnership* with the institutions of various fields and sectors, as well as within the national educational institutions; to develop and participate in the activities of international networks.

In order to implement the above aims it is necessary to obtain the information on the organisation of the professional development process in various European countries and to analyse Lithuania's experience in the field of professional development compared to other countries.

The aim of the Article: to discuss certain aspects in organising professional development of pedagogues in Lithuania within the context of European countries.

Object of the Research: organisation of professional development.

Research methodology: the research was carried out in November 2011-April 2012.

In order to analyse the current situation in organising professional development of pedagogues in Lithuania and in the EU, the analysis of secondary sources was carried out and included the investigation of the scientific books and journals, the Internet data and regulatory enactments. The analysis was also based on the personal experience of the authors as well as on their insights acquired during the internships abroad, during the international projects, and meetings with colleagues from the concerned foreign countries. The selected research-related information sources ensure reliability and relevance of information. Professional development of Lithuanian pedagogues within the context of European countries has been analysed pursuant to the information of the above sources.

2. PROFESSIONAL DEVELOPMENT IN EUROPE: OBLIGATION OR A FREE CHOICE?

More than 20 European countries declare that for teachers *lifelong learning* and professional development is not an aspiration but a necessity. Yet, this necessity has not been instituted in all the countries as an official/formal measure. For instance, in the Netherlands, Sweden, Island and Norway professional development is subject to a free choice of teachers. In Spain, Luxembourg, Poland, Portugal, Slovenia and Slovakia there is also no obligation to upgrade qualification but continuous skills development is directly related to the professional career, including salary increases (Teachers' Professional Development, 2010). The changes resulting from the education reform are presented (in all the EU Member States) during the training courses, workshops or other training events organised for teachers. Professional status of teachers varies from an ordinary staff member (in Sweden, Norway, the three Baltic States, Great Britain, Ireland, Slovakia, Czech Republic, and Italy), civil servant (in Luxembourg, Finland, Slovenia, Hungary) to career civil servant (in Spain, Portugal, and France, in certain regions of Poland, Germany and Belgium, in Greece, Cyprus and Malta). Teachers of Belgium, Germany, Greece, France, Spain, Portugal and other countries acquire profession for the entire life, and can be deprived of a possibility to pursue this activity only in exceptional cases. Not all the countries where teachers' professional development (TPD) is legalised as a professional duty indicate how much time teachers shall spend for this activity. In the countries which provided these indicators, the minimum time/per year allocated for TPD differs. For instance, in Cyprus primary school teachers shall spend 50 hours for TPD; in Estonia, Latvia, Lithuania, the United Kingdom and Norway – minimum 30 hours annually; in other countries, except Belgium (French and German speaking communities) – less than 20 hours. In some countries teachers have the right to use a certain amount of paid working time for professional development activities: in Czech Republic teachers have 12 working days for independent studies during a school year. In Italy, in order to have a flexible school timetable, schools are allowed to suspend the learning process for several days and allocate the time for TPD activities, whereas the employment contracts indicate that during a school year a teacher shall spend 5 days for TPD apart of his/her direct work (in Slovenia and Finland – 3 days, in the United Kingdom – 5 days). Teachers in Portugal are authorised to have professional development training during their working time but for no longer than 10 hours a year when it is their own initiative. Otherwise their annual leave cannot exceed 5 to 8 days. When professional development is organised during work hours the school leader shall ensure availability of substitute teachers to replace teachers who are absent (in all the countries). The absence of substitute teachers and additional costs has negative impact on teachers' professional development in all the countries.

In Lithuania teachers have 5 working days for professional development. On the one hand, this is an obligation enshrined in the Law on Education; on the other hand it is not a strict duty since time and professional development methods are not supervised, and professional development is not anymore related to the professional career. In other words, teachers are free to choose this activity.

3. ORGANISATION OF PROFESSIONAL DEVELOPMENT IN LITHUANIA: NEEDS, METHODS AND VENUES

Throughout Europe teachers face very similar professional career problems. The newly appointed teachers need the assistance of the experienced teachers and mentors in delivering a specific subject and for work in the class. The assistance of school administration is necessary to understand the internal school rules, norms, traditions and patterns of communication with colleagues and parents. According to the data of the Teaching and Learning International Survey (TALIS, 2010), the majority of teachers usually face the following three professional career problems:

1) communication with pupils and their parents (sometimes with colleagues);

2) introduction of new subjects (e.g. general education problems) and education measures (e.g. interactive boards) and their inclusion in the teaching/subject programme (curriculum).

3) integration of children with special needs (including gifted pupils).

These problems are usually solved during consultations and teaching process through the enhancement of knowledge, development of skills and upgrading professional qualification.

Teachers' professional development in Lithuania is an open system which is regulated exceptionally by financial opportunities and quality requirements. This system is a constituent part of non-formal education of adults defining the rights and duties of pedagogues and ensuring the assistance to school and pedagogues.

The Law amending the Law on Education (2011) and the Concept of Teacher In-Service Training (2012) enshrine the diversity of content and forms of professional development programmes and create the conditions for the extensive professional development of pedagogues.

Provision of professional development services at national level is organised, executed and coordinated by the Ministry of Education and Science and its authorised institutions. The Ministry of Education and Science defines priority professional development trends for school leaders and teachers; plans and allocates funds to subordinate professional development institutions; initiates preparation and execution of national professional development programmes and allocates funds for implementation of these programmes.

The institutions authorised by the Ministry of Education and Science (Education Development Centre, Centre of Information Technologies in Education, Education Supply Centre etc.) are responsible for the establishment, organisation, coordination and evaluation of a continuous learning and professional development system.

The key institutions organising and executing professional development of pedagogues at municipal level are education centres pursuing the needs assessment, organisation of professional development and requalification and creating conditions for the dissemination of best practice examples.

At municipal level the functions of organisation and execution of professional development are carried out by other centres (the field of activity- education assistance), higher schools and their units.

Although in principle the function of a continuous professional development is decentralised, the Ministry of Education and Science still has the function to identify priorities and allocate funds.

Quality of professional development services for pedagogues is evaluated at national, regional institutional (service provider) and institutional (service beneficiary) level. In order to ensure quality of professional development services, programmes and institutions involved in upgrading qualification of pedagogues shall be accredited.

According to the research/report analysis, there is still no methodology for the evaluation of changes in the qualification of teachers after professional development activities: the only issue recognised is certificate (a formal document obtained after participating in the process) but not professional development (the change) which is not measured.

Usually quality of professional development services is analysed by applying a questionnaire survey aimed to define the attitude of respondents. According to the data of the national research there is lack of inter-disciplinary training, special training and contemporary managerial trends; the programmes are

inconsistent and multidimensional nature of schools is ignored. The reports of education centres usually provide reactions of the participants and assessment of the acquired knowledge, but not the usefulness of workshops or feedback.

Pursuant to the data of the TALIS survey (Teaching and Learning International Survey) carried out by OECD, Lithuanian teachers usually upgrade qualification during non-formal meetings, training courses and by reading professional literature (Professional Development of Lithuanian Teachers, 2010). Other popular activities are conferences and workshops, visits to other schools and observation of their education process (not common in other EU Member States). The least attention is given to cooperation with colleagues, attending other teachers' lessons, learning from each other, participation in professional organisations and networks. Lithuanian teachers usually develop the knowledge of their own subject. This was confirmed in the *SC RAIT* research carried out in 2011 (Report of the research "Development of Teachers' In-Service Training and Retraining", stage 3. Joint research report, SC RAIT, 2011). The research revealed the traits of individualism and possessiveness since it is assumed that „by sharing the experience accumulated in school teachers feel like losing their superiority and value ("Report of the research "Development of Teachers' In-Service Training and Retraining", stage 3. Joint research report, SC RAIT, 2011). The issues of multicultural competence, management and administration, and pupils' counselling are less important. The situation with respect to professional development of Lithuanian teachers seems to be very good (pursuant to the number of attendants). More than 90 percent of teachers are involved in various professional development activities. However, the intensity of involvement is less than the total average indicated in TALIS. Priorities of Lithuanian teachers also differ from the general trends in other countries. For instance, the development of professional skills is very important in the majority of countries, whereas in Lithuania it is only in the fourth place. Programmes providing higher scientific degree are also unpopular (in the seventh place); and themes reflecting the current challenges (multicultural education, globalisation problems etc.) still don't find their place in Lithuania concerned more about daily pedagogical work procedures. In general, Lithuanian teachers do not relate professional development to their professional career. According to them, courses, workshops or other training events contribute to the specific changes in a specific school. Lithuanian teachers consider traditional workshops and courses as old and „morally worn-out" forms and do not see their practical use. They prefer to share the experience but want to be paid for it and are afraid of competition. They positively evaluate internships in Lithuania and abroad. Self-education could be meaningful only if it is formally recognised. In general teachers are critical toward organisation of professional development since it is not related to specific changes in their work, whereas short-term training courses do not give any feedback. According to the research, the factors determining successful professional development include: selection of an appropriate learning form, duration of learning, participation, orientation to the content of education, and alignment of education supply with the learning needs (Birman 2001). Although it is assumed that traditional professional development forms (workshops, courses) in higher education institutions are a bit boring, professional development of teachers is mainly determined by the duration of learning rather than its form. Duration should be sufficient not only to acquire new knowledge but also to check this knowledge in practice and consider implementation of new practices. Professional development activities pursued not by single teachers but groups of teachers or even the entire school community can give better results and long-lasting affect. The alignment of learning supply with demand also contributes to the success, since then teachers are really involved in the learning process: they apply the acquired knowledge and skills in their direct activity, search for information, analyse, create and pursue other activities. None of the EU Member States have a strictly defined place for professional development of teachers. The preference is given not to one specific place or institution but to the quality of services. The EU Commission favours *cooperation and partnership of various education institutions and encourages teachers to learn from their colleagues, teachers of higher*

education institutions, professional lecturers representing various organisations (even outside the framework of the education system); they are also encouraged to learn in the workplaces since here they have most favourable conditions to analyse their work practice, the needs and opportunities, observe the work of colleagues, share experience and proposals for the improvement of professional activity. In the EU documents and practice there is no reference to one professional development model as a standard model. It is recognised that each situation is exceptional, unique and requires flexible approach complying with the needs and expectations of pedagogues of a particular country. Lithuanian teachers want to have an opportunity to learn in school. The ones who have graduated from higher education institutions earlier, want attend lectures of their subjects in the universities. Evaluation of the activity of local education centres is controversial since their activity differs from region to region.

4. ORGANISATION OF PROFESSIONAL DEVELOPMENT IN OTHER EUROPEAN COUNTRIES

Finland. In Finland every teacher has a possibility to spend 2-3 working days for a free-of-charge professional development. This procedure has been approved by the teachers‘ trade union. Pursuant to this procedure, school leaders can also require the teachers to continuously upgrade their qualification (especially the ones who are rarely involved in the professional development events) (Methods and practises utilized to support teachers’ professional development: Current state description 2009). If teachers refuse to take this opportunity, school leader (in some schools) has the right to reduce salary by cutting the remuneration of 2-3 working days. According to Finish teachers, 2-3 days are too short a period of time; they would prefer to have more time for professional development. Since it is quite expensive, schools cannot allocate more funds. The Ministry of Education and the National Board of Education also support participation in the professional development courses, but formally professional development of teachers is the duty of schools. During the free time teachers often take part in professional development courses meeting their needs and cover the costs of these courses (Tuovinen, 2008). Intensity and frequency of professional development differs in more remote regions (e.g. in northern part of the country). The main obstacles in pursuing this activity are: distance, lack of suitable programmes and lack of motivation.

Professional development courses are also suggested by the National Centre for Professional Development, municipal education centres for adults, „open“ universities, education divisions, universities and other organisations. The need for professional development is often related to new programmes, changes in the subject delivery and other innovations. Currently one of the most popular activities is sharing professional experience. For instance, teachers share their daily experience with university lecturers, whereas the latter share their newest research results during the joint workshops. During the above workshops they can be both, the lecturers and the ones who learn. Teachers are given a certain amount of academic credits (or academic hours) which could be used in pursuing a scientific degree or as part of an ordinary professional development procedure.

The Statistics Department (Statistics Finland) and the National Board of Education supervise teachers‘ participation in the professional development process. It is considered that teachers having acquired master‘s degree and continuously developing their professional qualification are highly qualified teachers.

Teachers‘ professional development is organised as follows:

- Teachers take the responsibility (on a voluntary basis) for their professional development and themselves select courses and programmes which are covered in the form of various scholarships. The employer makes a final decision on professional development during working hours;

- Schools shall take the responsibility for the professional development of its staff members. Schools receive assistance from the municipal budget (about 200 EUR per teacher annually)

- The Government takes the responsibility (via the Ministry of Education and its subordinate institutions) for the professional development of teachers, especially when it is related to introduction of new education policy issues, programmes etc. Participation in such events is free of charge, but compensation of travel, accommodation and meals costs is discussed separately in each case and is an object of negotiations with the employer (in cases when there is no central funding). Professional development programmes for teachers are elaborated at central level and for each particular school depending on the nature and need for the programmes.

- The Advisory Board for Professional Development of Teachers prepared Ossav's programme for 2010-2011 aimed to reform teachers' professional development in a systematic manner and to seek quality and effectiveness. The priority is given to the education and organisational management, to teachers over 55 years of age and to the teachers who didn't have many opportunities to participate in the continuous learning during the recent years.

Finland trusts its teachers and cares about their education, but at the same time imposes very high requirements for teachers. Therefore education of newly appointed teachers and their further development is considered as a very important issue. Both, teachers and their employers, trade unions and organisers of professional development programmes are interested in the quality and effectiveness of vocational training.

Pursuant to the research of SC RAIT ("Report of the research "Development of Teachers' In-Service Training and Retraining", stage 3. Joint research report, SC RAIT, 2011), Lithuanian teachers lack confidence in the education system and in school as an organisation (with respect to professional development), and are inclined to act individually and independently. Coordinated actions of teachers and schools as organisations in planning and executing professional development activities are mainly determined by the culture of school, its vision and understanding on how professional development of each person will contribute to the improvement of an organisation and vice versa – how school could contribute to personal and professional development of each teacher.

In the United Kingdom (hereinafter referred to as the UK), as in Finland, professional development of teachers is not centralised. It is pursued by various – national and private – institutions. Teachers select the provider of professional development service referring to the reputation, professional qualities and competence. Central accreditation is applied only to the curricula of higher education.[28] As in Finland, teachers' trade unions are very active in the UK (e.g. the Association of School and College Leaders) and are concerned about professional development of their members. In the UK it is a usual practice to lean on the teachers-leaders or leading teachers providing professional-counselling assistance to other teachers and school communities. Therefore quite often schools organise various professional development courses for own teachers and for teachers of neighbouring schools.

[28] Personal communication with specialists of Schools and Academies Trust (SSAT), UK (2012, 15 June)

In the UK quite a lot of attention is given to the professional development of teachers. First of all teachers need to comply with certain standards, secondly, it is necessary to demonstrate that profession of a teacher is respected and that high requirements are imposed to this profession. At the same time it is important to increase the prestige of this profession and encourage community to seek the profession of a teacher. The adopted National Strategy for Professional Development of Teachers (Ross, Hutchings, 2003) also demonstrates the importance of professional development. Thanks to this strategy funding of the above sphere has increased and today the focus is given to the development of leadership skills in teachers, including the possibilities to fight for and take the „school leader's" position. For quite a long time teachers could take part in short-term internships in the country and abroad (note: according to the latest information, due to the economic reasons they have less opportunities to do that). Teachers working in socially vulnerable schools requiring more efforts have the right to have a 6-weeks vacation. Teachers also have a possibility to work in other non-educational institutions and acquire other valuable experience.

School networking is also very popular in the United Kingdom, when several schools of one region share experience, learn from each other and solve relevant problems. The experienced teachers are required to share their experience not only with their colleagues but also with teacher education institutions (they shall allocate 20 percent of their work time for this activity). This is a good measure to develop teachers' skills in adult education and managerial competences, and promote responsible attitude and commitment to a wider educators' community.

According to the TALIS survey teachers are given 5 days per year to develop other skills not related to their direct work (except Scotland, where 35 hours are additional to 5 days that teachers spend in schools without pupils and where professional development is directly related to teachers' degrees and the amount of salary). Yet the possibility to develop skills during working hours is restricted, therefore the majority of teachers consider professional development as an additional burden rather than opportunity, since they have to do this job after working hours or during weekends. The most popular are continuous one day courses at the end of the academic year. Teachers themselves are interested in professional development since this is important for employers and school community. Therefore teachers often develop their skills additionally, during their free time. Although professional development is planned after the assessment of individual needs (the Scottish example), teachers shall take into account general „policy", strategy and plan of the school community as well as national priorities. There are more schools-leaders studying under master's programmes and selecting study themes related to their delivered subject (in the UK it is enough to have a bachelor's degree to work in school).

Professional development programmes are prepared in school and serve as an integral part of the school curriculum. Universities try to create flexible programmes for studies of working teachers; employers also create conditions for studies but teachers shall cover all study costs. „Open" universities (distance learning) provide conditions for on-the-job learning or learning at home by coordinating various forms of studies. Teachers need more financial support for the professional development, as well as more time and substituting teachers in order to study during working time. The most popular are programmes related to the delivered subjects, application of ICT, individualisation of education content, evaluation, and education of children with special needs and gifted children.

In the UK people without professional qualification or relevant background can work as teachers. Qualification is being acquired during the working process during which teachers are provided with a possibility to attend various courses, visit colleges or universities. The so called „inductive" period is applied for newly appointed teachers. During this period they receive continuous assistance of senior teachers and mentors; e.g. during the last month of summer they take part in the

intensive training so as to be ready for work in school in September. In Lithuania there is no possibility to work as a teacher without relevant professional qualification.

Similarly as in Finland, in **Ireland** profession of a teacher is considered as a respected profession (despite small wages), since *„learning is still a perspective: during the recent twenty decades, despite various conflicts and changing economic situation, it has not lost its popularity*" (Murphy and Coolahan 2003). As in many Scandinavian countries, teachers' trade unions are very popular and take care of the professional development of teachers. Yet, financial issues and organisation is centralised (at the national level).

However, the changing society demonstrates that for teachers it is quite difficult to change in the unstable environment where traditional teacher-pupil relationship does not function anymore and where school and society shall find a new balance. Teachers are responsible for the adaptation of the education content/forms to the changing conditions. Yet, irrespective of their professional devotion, there is still lack of centralised and well organised support and assistance.

In Ireland there are two clearly defined concepts of professional development. The first, narrow, highlights the learning-professional development activity directed toward employment. It is aimed to solve problems in jobs (e.g. evaluation of pupils, application of effective teaching methods in delivering certain subjects etc.). The second, wider, seeks to demonstrate that professional development implies various related activities which help teachers enhance their individual professional skills, upgrade professional competences, and improve understanding of the principles of the education philosophy. According to Ireland's Government, the best return from the future investment to teacher education will come from the well perceived, well planned and nationally disseminated professional development system based on the idea of a teacher's career. The concept of the Irish ICDP („in-career professional development") consists of the following elements:

- ICPD decision-making level (national, regional, local or school level);
- ICPD policy agents. These are the persons having the power of policy formation (e.g. the minister or governmental department, administrators or policy executors and professionals) providing advice to politicians;
- ICPD policy objectives. They consist of the key activities, e.g. needs assessment/identification, content areas, funding, organisational structure and evaluation;
- ICPD policy users. This element includes all persons participating in the teachers' professional development. These could be individuals, groups, schools, local education heads/divisions or the entire national education system.
- ICPD policy implementation instruments. They include the establishment of commitments, promotions, skills and mechanisms changing the system;

However, teachers' professional development (TPD) in Ireland is fragmented and there face difficulties in identifying and evaluating the ongoing TPD processes. The Irish national TPD policy system consists of the local initiatives (schools or their groups); agencies (management institutions), universities, teachers' centres and teacher education institutions. Ireland lacks formalised national TPD policy and measures. The current system based on the bottom-up principle coming from teachers and schools themselves, consists of 4 main actors:

- The system of education inspectorates organising teacher training during the summer holidays. This training is concentrated mostly on the content of programmes.

ISSN 1313-2571, Published at: http://www.scientific-publications.net

- Associations of teachers of specific subjects which at national and local level pursue certain TPD activities. These activities are diverse in their forms (conferences, workshops, training, and lectures).

- Vocational training committees where each of the committee has its own professional development (PD) unit organising professional development for teachers and school leaders. Such activities are organised by one or several vocational training committees.

- Institutions and organisations, e.g. universities, teachers' centres and various management structures acting individually and together with other institutions in organising various TPD activities including the update of professional knowledge, methodology, class management, administration issues etc.

- Teachers themselves, who have become trainers of teachers and who provide on-the –job counselling to colleagues from own and other schools. They are also invited to teach in higher education institutions and implement the projects related to the improvement of content of education.

Ireland's teachers take part in professional development and qualification upgrading activities on a voluntary basis and realise the importance of this activity. Although teachers have a possibility to upgrade qualification during work hours (they are substituted by other teachers; and their travel costs are also covered), however this activity is usually pursued during free time. Teachers who want to study in higher education institutions and get a master's degree receive financial support.

In this context Lithuania's professional development system could also be considered as fragmented: it still lacks clear priorities, structure, changes and impact assessment. Priority trends defined by the Ministry of Education and Science of the Republic of Lithuania are not clearly communicated and are not always in conformity with the needs of schools and teachers. Despite high supply of the professional development with respect to forms, duration and content, teachers and schools are not eager to take part in long-lasting, continuous and work/effort consuming programmes. Popular one-day workshops usually don't give any results/feedback. Although teachers have a possibility to plan their professional career while seeking the position of school director, deputy director, assistant to director or teacher of other special duties, they do not relate professional development to the professional career opportunities.

In Poland TPD is divided into qualification upgrading and qualification development. Teachers' qualification upgrading is related to the formally recognised certification process in upgrading qualification (attestation). It is obligatory. Qualification development is directed toward the development of professional competences of teachers, is not related to teachers' attestation and is not obligatory.

The forms of TPD include:

- individual learning through distance teaching and counselling programmes.

- inter-school learning aimed to prepare the trainers of teachers and to improve qualification of teachers of certain subjects.

- assistance of local education authorities and consultations on teaching methods, strategies and teaching programmes.

Qualification development of teachers of various subjects is carried out by a teacher-counsellor. One counsellor is appointed for a group of 120 teachers. The pedagogical load of a counsellor is 18 hours

per week (some of these hours shall be spend for the development of teachers‘ qualification. The main objective of counsellors is to provide extensive assistance to teachers of specific subjects.

TPD in the country is carried out at regional and national level. At regional level services are provided by both public and private institutions organising different TPD events (workshops, counselling, conferences, courses etc.) responsible for the preparation of the individual learning material. The national level includes national TPD agencies subordinate to the Ministry of Education. These institutions in Poland include:

- Central Teacher Training service (Centralny Osrodek Doskonalenia Nauczycieli, CODN) responsible for the development of TPD standards and models.

- Methodological Centre of Pedagogical and Psychological Assistance (Centrum Metodyczne Pomocy Psychologiczno-Pedagogicznej).

- Centre for the Development of National Educational Programmes (Krajowy Osrodek Rozwoju Programów Szkolnych) responsible for the accreditation of institutions providing TPD services (Institutional Approaches to Teacher Education within Higher Education in Europe: Current Models and New Developments. Bucharest 2003).

In Greece after studies in higher education institutions the newly appointed teachers two years study the subjects like didactics, administration of education process and management, evaluation, learning methods and strategies etc. and only then they have the right to work as teachers (Stylianidou et all 2004). Further professional development is a concern of regional teacher education centres, school advisors, teachers‘ associations, trade unions or workers of prefectures responsible for the environmental protection, education of society on health issues etc. Teachers also have a possibility to participate in the national or international programmes or projects. The Ministry of Education shall define political-strategic professional development areas and trends, coordinate the above process and create professional development programmes the execution of which is delegated to the accredited organisations; the ministry allocates funds and supervises their effective use. Thus, on the one hand professional development of teachers is decentralised, on the other hand it is centralised; via the institution OEPEK (Organization for the in- service training of teachers) it coordinates and supervises the activity of all other teacher professional development institutions.

Although teachers in Greece have many opportunities to develop their professional skills, it is not yet clear on how they use these opportunities and what is the their impact; this is due to the lack of extensive research. Trade unions are against the evaluation of teachers, therefore it is usually carried out on a voluntary basis by the initiative of certain schools, although the law does stipulate teachers’ evaluation during certain periods: two years after commencement of the activity; later every three years (when job record is under 12 years) and every four years (when job record is more than 12 years). But this is not a rule for everybody. The ones seeking work in public sector, higher positions or recognition shall participate in the evaluation process. Teachers are evaluated by school advisors and leaders, and the latter are evaluated by the responsible municipal workers or the education board at the prefecture level. The evaluated activities include: teachers‘ research skills, pedagogical and didactical competences, communication abilities, proactive approach and leadership. Evaluation of teachers provides for the career building, i.e. teachers can become school advisors or be responsible for health, environmental or other programmes, and seek positions at the municipal or prefecture level. Yet, the law as such is not functional. Teachers and schools are still reluctant to participate in the evaluation process. According to one of the workers of the Education Research Centre, teachers do not consider that evaluation is necessary for their professional development and do not relate evaluation to career perspectives.

Some teachers working in the **western part of Germany** have the status of a civil servant and acquire a teacher‘s profession for good. Since civil servants are divided into categories, teachers are also attributed to certain categories defining their possibility to work in various educational institutions. For instance, senior civil servants work in the gymnasiums and vocational schools, whereas civil servants of higher level work in the basic and real schools. In other parts of Germany teachers work under employment contracts and although they do not have the status of a civil servant, teachers feel quite sure for their work and there is small possibility that their employment contract will be terminated. Such a system has both, positive and negative aspects. On the one hand, teachers can work and be sure of clearly defined employment guarantees, on the other hand this could make them „drowse“ or become less motivated with respect to continuous professional development. According to colleagues working with teachers[29], even school leaders practically have no possibility to „urge“ teachers to take part in the professional development courses, programmes and projects since not all of them are motivated. The external environment does not motivate teachers to pursue continuous learning or propose a new added value expressed in the increased salary or other career opportunities. Teachers‘ rights are actively protected by trade unions and associations where teachers are very active. Separate lands of the country define which competences are relevant for working teachers and how these competences could be developed (Attracting, Developing and Retaining Effective Teachers, OECD Activity Country Background Report for the Federal Republic of Germany, 2003). Professional development of teachers is organised at central level (outside school) and is also decentralised (school professional development). It should be noted that in Germany there is a clear distinction between *professional development and continuous learning of teachers*. The first is related to the development of the available competences, whereas the second with acquisition of new competences (e.g. a second subject, education management, administration etc.). In Lithuania teachers also study in higher education institutions in order to acquire higher level education, receive the right to deliver other subjects or acquire managerial competences. In Germany mandatory days or hours for professional development are not defined.

5. CONCLUSIONS

Professional development models in the EU Member States vary from country to country depending on the national situation, the needs and traditions. These models are constantly changing following the changes in the education policy, expectations and desires of pedagogues. All the countries consider professional development of pedagogues as a lifelong lasting development which includes the reflections of own and other teachers‘ experiences, learning from the close and remote environment, and takes into account processes, changes and future trends in own country, in the EU and globally. The main objective of professional development is to improve teaching and learning skills in the classroom, to educate self-sufficient and thinking citizens able to pursue creative and successful activities.

Taking into account the number of pedagogues involved in the professional development within the EU, situation in Lithuania is quite good, but the country‘s professional development system still lacks clear priorities, as well as a specific structure, changes and impact assessment. Long-lasting professional development courses are not popular among the teachers. The most popular are one day/several hours workshops which usually do not provide any feedback.

[29] Personal communication with prof. Andreas Breiter from Information Management and Education Technologies (Brehmeno University (2012, 23 August).

Differently from pedagogues of other countries, Lithuanian teachers are not very much interested in global issues and are less inclined to share their experience with others or take part in the professional networks. They do not relate their career to professional development.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

TESTING AND EVALUATION OF A COMPUTER PROGRAM AND PLATFORM

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Abstract

Information technologies are used in many areas of education, which has resulted in the creation of new teaching methods, especially computerized testing and evaluation. These technologies change the ways and methods for developing and implementing tests assessing knowledge and skills as well as for mastering new knowledge. The paper describes some ideas, results and suggestions regarding the creation of tests with a computer program and platform. It presents the program algorithm by means of a flowchart and discusses the preparation and implementation of tests evaluating the results of students. The advantages and disadvantages of computer testing and evaluation are described.

Key words: *test examination, computer evaluation.*

1. INTRODUCTION

Modern methods of training, self-tuition and evaluation are employed in every sphere of the educational process through the effective application of advanced information technology.

In this paper, we put forward some ideas, results and conceptions related to the design of tests used in the seminars on Information Technologies, based on a computer program as well as a computer platform.

The paper outlines the advantages and the drawbacks of the computer-based test examination and evaluation.

The goals we have delineated are the following:

- optimizing the knowledge acquisition process in the "Company Economics" discipline through information technology assisting the existing methods of training, learning, self-tuition and evaluation;

- providing the possibility for multiple online practice of the acquired knowledge;

- enhancing the student level of performance in mastering the given subject matter;

- facilitating the process of training by making it easier for both students and the lecturers;

- increasing the levels of student motivation through transferring the research project assignment in "Information Technologies" into a familiar and friendly computer environment.

- obtaining better results in general.

2. KNOWLEDGE ASSESSMENT APPROACHES

The knowledge assessment approaches can be summarized as follows:

- the "essay" approach – The compiler is to possess knowledge and skills in the testing and the subjective aspect of the teacher's evaluation is extremely important. The students' knowledge is usually tested by means of an essay.

- the structuralist approach – This approach rests on the idea that learning has to do with the systematic acquisition of knowledge. It is based on comparative analysis and the necessity to determine the degree to which the student has mastered specific definitions, concepts, components, etc. Multiple-choice exercises belong to this approach.

- integrative approach – It presupposes knowledge testing and assessment which is performed not on isolated pieces of knowledge but on the students' ability to apply two or more skills simultaneously.

- communicative approach – It is commonly combined with the integrative one. Both approaches emphasize the importance of meaning at the expense of form or structure. The communicative approach is, however, based on precise and detailed specifications – chemical, mathematical, computer, medical, etc. – corresponding to the students' needs.

In order to compile successful test variants, we often need to combine these four approaches.

The tests with which we assess knowledge are grouped as subjective and objective. Subjective tests take into account the ability to communicate, which happens with the help of essay writing or a situation-specific conversation. Objective tests require careful variant preparation. Each test must objectively evaluate knowledge and not depend on the person who performs the assessment.

3. TYPES OF QUESTIONS IN THE TEST

The questions in the test can be categorized as follows:

- Questions with one or more correct answers (Multiple-Choice).

- Questions with a short answer – a word or an expression (Short Answer questions).

- Questions with a choice between true/false (True-False questions).

- Questions with pairs of correct answers.

- Questions with randomly disarranged answers (Random questions).

- Questions with numerical answers (Numerical questions with allowable Ranges).

- Questions with text paragraph answers (cloze style).

4. TEST QUESTION AND TASK DEVELOPMENT

At first, we determine the purposes and tasks of the test, then the questions and their corresponding answers [6]. The following steps should be taken into account:

- attaining full compatibility between the questions, tasks and answers of the test and the respective subject matter content;

- ensuring diversity in form, structure and language of the separate questions, tasks and answers in order to build up a positive attitude towards the test as a method of examination and evaluation;

- offering precise, clear and unequivocal formulations of all the questions, tasks and answers;

- choosing the right format, 1 point is given for identifying the correct answer, 0 points for the incorrect one.

5. EFFICIENT TEST ALGORITHM

The algorithm comprises the following major steps:

- Setting up the requirements and purposes of the test.
- Ascertaining the exact range of knowledge for evaluation.
- Drawing up the test itself.
- Deciding upon the number of points per question.
- Testing.
- Analyzing the test results.
- Test editing.
- Determining the final optimum variant of the test.
- Test quality check.
- Test submission.
- The test is ready.

6. A COMPUTER TEST PROGRAM

There is a computer test program in the subject of „Information Technologies". In the database, controlled by the program, we have stored the following:

- students' names and faculty numbers;
- test questions and answers;

We describe the program algorithm and the steps that follow in order to accomplish real test examination and evaluation. In the development of the computer test program and storage of the data, as well as for the achievement of objective evaluation of the trainees' results, the following characteristics are met:

- the questions are equally difficult;
- to improve the security, reliability and objectivity, each trainee is presented with a different test, generated at random; test questions cannot be known in advance, because there is no one and only test but a wide range of diverse questions in the database.
- there is only one correct answer to each question;
- one point is given for each correct answer;
- no points are given if the answer is incorrect;
- the administering of the test examination for each trainee takes one and the same length of time.

The algorithm for the computer test program applied in the subject of „Information Technologies" is described by the flowchart shown in fig. 2. In the program development the program language of the scientific and technical computing system MatLab [1, 4] is employed.

After starting the program, the examinee enters his or her name and the respective faculty number.

The database loads the test questions information, examinees' names and faculty numbers and the correct answer to each question. The number of the questions N is entered. A test is generated at random with a function of generating random numbers. On the screen only one question is displayed with the corresponding three alternative answers out of which only one is correct. The examinee decides upon the correct alternative and enters the respective number. The selected answer is compared with the correct answer from the database. In two variables n1 and n2 the relevant number of the correct and incorrect answers is stored. If, after the comparison, the answer is correct, the examinee is awarded 1 point and the value of the correct answer variable n1 is increased with 1. If the answer is incorrect, the examinee is not awarded a point and the value of the incorrect answer variable n2 is increased with 1. The examinee is supposed to answer all the questions. After the answer to the last question we retrieve the name, faculty number, date, clock time, number of the correct answers, number of the incorrect answers and the evaluation (or the assessment mark). The evaluation is computed by means of a formula according to the number of correct answers, the results of which are kept in the database.

In a separate file the entire test taking session with all variables is stored. The file can be opened, examined and printed out.

The examiners receive information about the results of the tests carried out by each trainee during their separate training unit preparation in the given subject area and their final test examination. The computer test program evaluates objectively the examinee's knowledge and the gaps in it, contributes to acquiring new knowledge, and provides the opportunity for designing interesting, motivating, reliable and efficient tests.

7. MOODLE-BASED (MODULAR OBJECT-ORIENTED DYNAMIC LEARNING ENVIRONMENT) PLATFORM TEST DEVELOPMENT FOR E-LEARNING.

The tests in MOODLE are created by the lecturers themselves in a question database. The questions can also be imported from an external source [2, 3, 5]. The tests are stored in separate categories, which are uploaded, so as to be available on the website for every course. They can be accessed only for a stipulated period of time and upon expiry of the period of duration the trainees' access is denied. The tests can be evaluated again if the questions are altered. If the lecturer decides, the tests can be administered repeatedly, with an increasing level of difficulty. To avoid cheating, the questions can be randomly retrieved with every examination.

A Moodle-based test is developed in the following sequence:

- Start Moodle.

- Log in to the course, where the respective test is due to be done.

- Click on the button "EDIT"

- Choose a line (numbered block), assigned to the test.

ISSN 1313-2571, Published at: http://www.scientific-publications.net

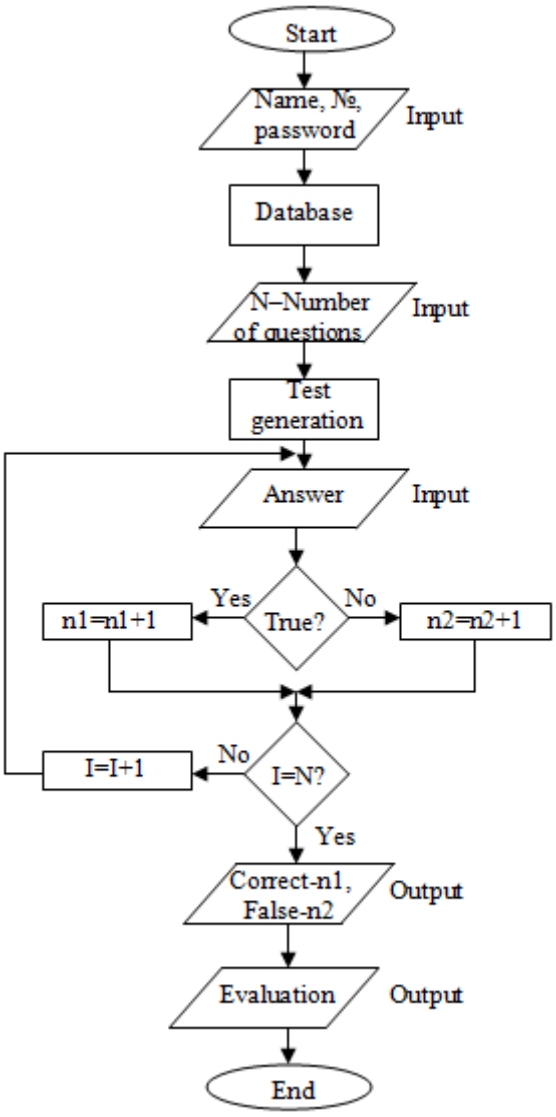

Fig. 2. Flowchart of the test examination program

For example, a given training course consists of 10 sections. If it is an entry test, the first block is chosen (without a number), if it is a final test –block №10 is chosen. If the block is not chosen properly, then the test link could be moved in another block by dragging it up or down.

- Click on “Adding a learning activity” in the chosen block Fig.1.

- Select ”Test” from the drop-down menu. A form opens for you to complete.

- Enter a test name in the space provided under ”Name” (e.g. “Test 1”, “Final Test”, etc.).

- Under “Introduction” an instruction to the students should be typed. For example: “Dear students, this is a revision test covering some of the topics in “Information Technologies” discussed so far.”

- Setting up the test is accomplished and you can click on the button “Save changes and show”.

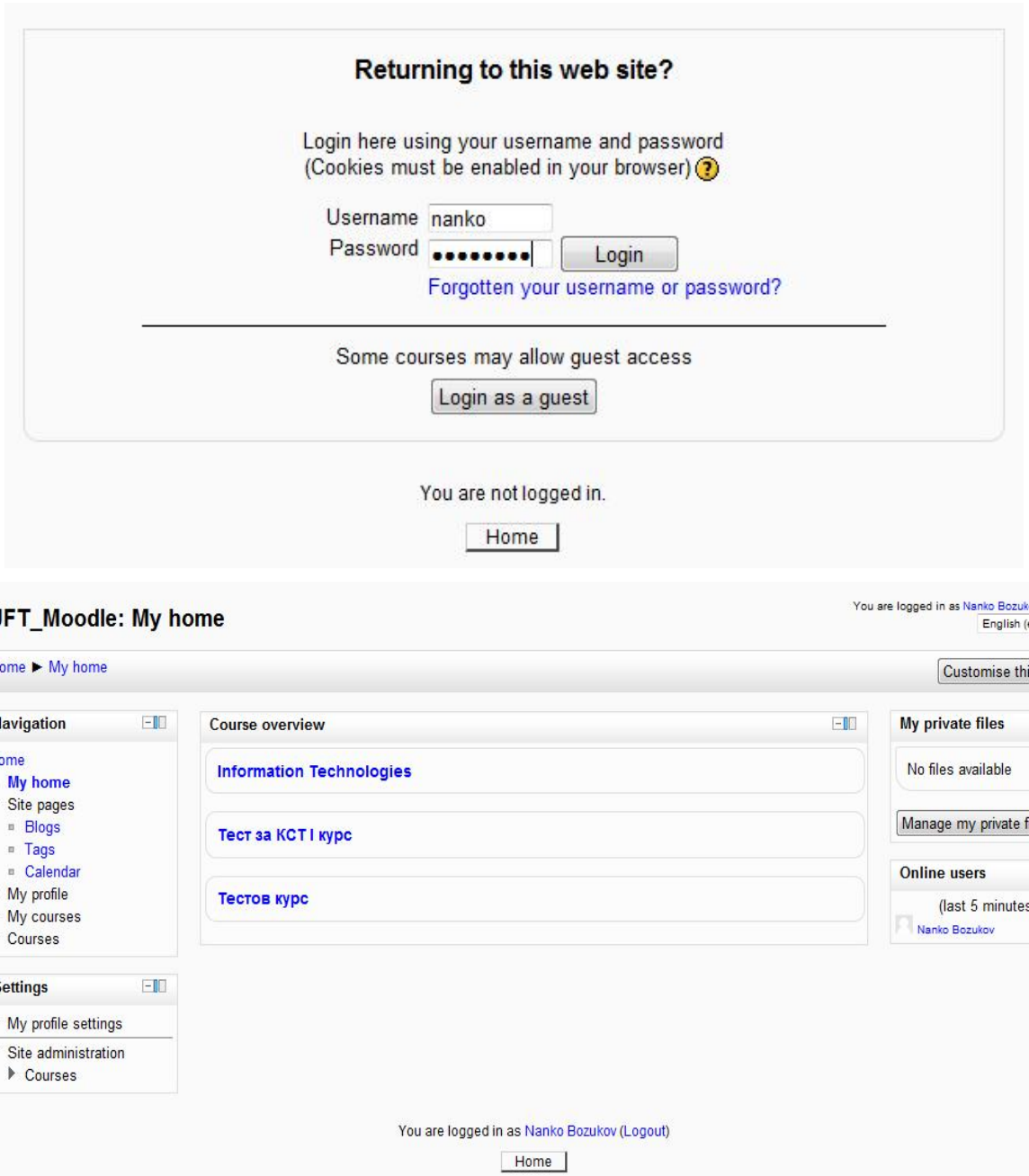

Fig. 1. Test design for a given course of training

On the basis of the sequence discussed above, a test in “Information Technologies” has been set up.

8. ADVANTAGES OF THE COMPUTER TESTING PROGRAM

The computer testing program thus created has the following advantages:

- all definitions, concepts and rules belonging to the topics of the subject studied are included;

- the test questions are clear, precise, unambiguous; they do not mislead or confuse the examinees;

- the students can use the tests repeatedly and self-evaluate themselves before being examined by the teacher;

- the tests generated from the database are equally difficult without being equal in form and the examinees cannot cheat;

- assessment is subjective when students’ answers are evaluated by the computer program and the teacher does not interfere;

- the huge amount of data is quickly and readily entered, stored, browsed, identified and processed;

- it is possible to enter data, tests and evaluation related to various scientific subjects;

- each student has the same amount of time to complete the test;

- the examinees are evaluated immediately after entering the last answer;

- the results from each test are kept in a separate file which can be opened, reviewed and printed out;

- the examiner does not waste time on test creation each time he or she examines and evaluates students because test generation and assessment are automatically performed by the computer program.

9. DRAWBACKS OF THE COMPUTER TESTING PROGRAM

- the computer testing program development is time-consuming;

- we need an enormous database with different exam questions;

- a separate computer is needed for each examinee so that he or she can be examined;

- the examination process is to be monitored because otherwise we will not know the actual person taking the test or the kind of reference used in the process of its performance;

- the examiner has to know how to manage the program;

- only one question and its corresponding answers are displayed on the screen of the computer system;

- we need cooperation among the examiners and those developing the computer program, although they are experts in different areas – in the subject area of “Information Technologies” and the field of information technologies.

10. CONCLUSION

Information technologies for test examination and evaluation contribute to:

- The improvement of the students' level of knowledge.
- The integration of traditional and modern methods of training, learning, self-tuition and evaluation;
- The optimization of the process of checking and evaluating students' knowledge and skills;
- The minimization of the total number of poor results.

Efficient evaluation is achievable only when a precise and impartial evaluation of the trainees' knowledge and skills is given. Thus, the lecturers are aware of the degree to which a given subject matter is mastered, which in turn helps them make appropriate decisions. Test taking is one of the evaluation methods in e-learning. On the basis of tests, it is possible to draw the necessary conclusions as to the trainees' skills and knowledge. The results of a given tests indicate whether the trainee is capable of coping with a concrete task or answering questions about a certain topic. The results from the test examination are directly related to its purposes. A given test could be suitable for the evaluation of a particular topic, but completely inappropriate with other topics.

The computer test program in the subject of "Information Technologies" generates tests, containing enough information about the concepts, rules and topics.

When designing a test, of paramount importance is its security, which means that no mistakes should be allowed in the test itself and all possible cases of cheating on the part of those being examined should be taken into consideration and prevented. Therefore, the tests are developed in a format dependent upon the software used. The test should be different for each examinee, which makes cheating difficult. This is the reason why different questions are included in each test. All tests have to be equally difficult. The test is opened immediately before the beginning of the examination. If the test happens to be uploaded freely on the Net, then it is accessible to everybody, and this necessitates the use of passwords, through which we monitor the identity of the person opening the test and the number of times this occurs.

An important feature of efficient evaluation through test taking is its sustainability, or rather, its reliability. This means that the evaluation results would be the same if the examination test is conducted at a different time, under different circumstances and by different lecturers. In this respect, evaluation reliability means that the unbiased lecturers have to evaluate the answer of a certain trainee in one and the same way.

In electronic test design, we employ the latest information technologies.

More remains to be done as to the accomplishment of the most appropriate computer test model in a way that optimally uses the opportunities offered by the constant development of newer and more sophisticated information technologies.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

CROSS-SECTORAL INTEGRATION IN KINDERGARTEN

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Abstract

Tutorials in the course of Social studies early learning that 2nd year students have majoring in Preschool education have shown that students are aware of the importance of linking the areas of activity covered in the Curriculum for kindergarten, but have shown also that students often find inadequate connection between them, or overlook the connection which is more than obvious. Tutorials have also shown that most of the students cannot choose a fairy tale through which they could bring a social studies topic closer to children. The observed has led to the result that students have begun to train systematically in the search of links between areas of activities and in the selection of fairy tales, and finding a fundamental messages in them.

The paper presents an example of the adequate addressing of linking areas of activity in which language was the base field where fairy tale was used as a baseline of treatment.

Key words: *curriculum, areas of activity, areas of activity linking, fairy tale*

PRE-SCHOOL CURRICULUM

The Pre-school Curriculum is a Slovenian national document that was passed by the General Education Professional Council of the Republic of Slovenia in 1999, and it represents a professional basis for the work in kindergartens. Every pre-school institution and every professional working in it is obliged to carry out the educational process according to the Pre-school Curriculum. But as the national document is not strictly structured in terms of content and is not strictly obliging, professionals in a kindergarten have got a lot of autonomy when they plan and carry out the educational process, but at the same time, they have got even greater responsibility, as they have to use handbooks for pre-school teachers and appropriate professional literature to professionally plan and carry out every-day work with children in a kindergarten in a quality way, apart from the prescribed Pre-school Curriculum that is merely an outline guideline for pre-school professionals.

The Pre-school Curriculum puts in the centre a child, their developmental and individual capabilities and special traits, and that is evident from one of the most important objectives of the curriculum. It originates in the Declaration of the Human Rights and the Convention on the Rights of the Child that goes like this: »*enabling greater individuality, being different and choice and more respect towards a child's privacy and intimacy.*«[30]

[30] Bahovec, E. et. al. "Kurikulum za vrtce", (1999): 5

The Pre-school Curriculum is divided in two parts. In the first part, there are, right in the beginning, presented general objectives. Those are:

1. a more open and flexible curriculum in different programmes for pre-school children,
2. a richer and more varied offer in all the field activities of the pre-school education in kindergartens,
3. a more balanced offer of different fields and activities in the pre-school education in kindergartens that does enable deepening in certain fields at the same time,
4. a greater consideration of individuality, differences and choice that are opposite to the group routine,
5. setting conditions for greater expression and consciousness-raising about group differences (non-discrimination in terms of sex, social and cultural origin, a view of the world, nationality, physical and psychological constitution),
6. a greater consideration and respect of the children's privacy and intimacy,
7. a quality rise in mutual interactions between children and between children and adults in a kindergarten,
8. the re-conceptualisation and re-organisation of the space and equipment in a kindergarten,
9. a greater autonomy and professional responsibility of the pre-school institutions and their professionals,
10. making the role of evaluation (critical assessment) greater in planning life and work in a kindergarten,
11. bettering the information output and collaboration with parents.

General objectives of the Pre-school Curriculum are followed by a detailed description of sixteen basic principles intended for realising eleven of the general objectives of the Pre-school Curriculum that have to be taken into consideration by pre-school teachers and other pre-school professionals in their every-day work with children. These principles are:

1. the principle of democracy and pluralism,
2. the principle of the curriculum openness, autonomy and professional responsibility of the pre-school institution and its professionals,
3. the principle of equal opportunities and realisations of being different among the children and the principle of multiculturalism,
4. the principle of enabling choice and being different,
5. the principle of respecting privacy and intimacy,
6. the principle of balance,
7. the principle of professional basis of the curriculum,
8. the principle of the conditions of the curriculum introduction,
9. the principle of horizontal connections,

10. the principle of vertical connections or continuity,
11. the principle of collaboration with parents,
12. the principle of collaboration with the environment,
13. the principle of team planning and carrying out the pre-school education and professional education,
14. the principle of critical assessment (evaluation),
15. the principle of development and process approach,
16. the principle of active learning and ensuring the possibility of verbalisation and other ways of expression.

Apart from general objectives and principles for realising them, there is presented the general knowledge about a child in a kindergarten. This knowledge deals with:

1. the development of a child in the pre-school period in predictable and chronologically defined sequences or stages,
2. learning of a child in the pre-school period, which is most successful when a child is wholly, mentally and emotionally, active,
3. spontaneous play and play as a learning method that enables faster, most of all, more lasting memorising of the learnt, as a child is, while playing, directed towards the play itself and acquires knowledge non-intentionally, without pressure, in a relaxed atmosphere and in an attractive form,
4. the importance of a routine for a pre-school child (arrivals to the kindergarten and departures from the kindergarten, eating, rest, hygiene, changing activities etc.),
5. the importance of behaviour of all the adults in the kindergarten who are a model to children by their behaviour in all situations and who greatly influence a child's self-image,
6. the importance of organising a healthy, secure and pleasant room in which a child spends most of their day,
7. the ways of collaborating with parents that are a very important partner in every-day child's education.

In the second part of The Pre-school Curriculum, there are six activity fields presented. Those are:

1. physical exercise,
2. language,
3. arts (visual art, music, dance, drama),
4. society,
5. nature and
6. maths.

In each of the fields, in the introductory part, there is a short description of the field that shows how to start planning and covering themes that would engage a child as wholly as possible, emotionally and mentally. In continuation, in each of the fields, there are written:

a) a pre-school teacher's compulsory global objectives and objectives derived from the global ones,

b) the examples of activities and themes that are in aid of a pre-school teacher in planning and carrying out the educational work in different stages and are defined separately for the first (from 1 to 3 years) and second (from 3 to 6 years) age period and

c) the role of adults that points to the role of pre-school professionals in the development of a child.

CROSS-CURRICULAR CONNECTIONS IN THE CURRICULUM

In the Pre-school Curriculum, there is a great emphasis on combining six field activities, and pre-school teachers who are aware of the fact that children experience the world holistically, wanting to present some themes as wholly as possible, take as a starting point in their work with children connecting themes or objectives from more field activities. By doing that, they are attentive to the fact when including certain cross-curricular connections makes sense and when it does not. We talk about cross-curricular connections that make sense when we achieve something that we would not achieve without them or we would not achieve it as good as with them. In the cases where cross-curricular connections are introduced by force, we talk about cross-curricular connections that do not make sense and that diminish the worth of the process instead of making it richer.

The importance of combining field activities can be found in one of the sixteen principles of the Pre-school Curriculum, i. e. in the principle of horizontal connections, which talks about connecting »*activities of different field activities in a kindergarten, and thus, in different aspects of a child's development and learning, as it is especially characteristic of a pre-school child that the aspects of their development are also co-dependent and inter-connected*«[31] and about the choice of »*those themes and methods and techniques with pre-school children that take into consideration the specifics of a pre-school child, and thus, enable greatly the connection of different field activities in a kindergarten.*«[32]

If we disintegrate the presented horizontal principle in smaller elements, we see that the principle talks about five notions. Those are:

1. connecting activities in different fields,
2. a pre-school child's development,
3. a pre-school child's learning,
4. themes' choices and
5. methods and techniques with pre-school children.

If we take a step further and we put together again the disintegrated whole in smaller elements, we notice that the horizontal principle talks about cross-curricular connections, in which there are appropriately

[31] Bahovec, E. et. al. "Kurikulum za vrtce", (1999): 7

[32] Bahovec, E. et. al. "Kurikulum za vrtce", (1999): 8

chosen themes supported by methods and techniques that take into consideration the development and learning of a pre-school child.

The examples of themes that we can deal with by connecting all six fields are moral development, a care for health and traffic education. These are examples that are written in the Pre-school Curriculum, but apart from them, there are many other themes that can be covered by connecting different fields.

Searching such themes is many times difficult, especially for inexperienced students that are aware of the importance of connecting activity fields, but many times, they do not find them or they find inappropriate ones.

STUDENTS AND CROSS-CURRICULAR CONNECTIONS

An example of a missed obvious field is reading a literary text with the purpose of getting some society theme closer to children. Students literally use literary texts to achieve the objectives in the society field, but they are not aware that the used literary text covered in steps by which a literary text is covered could or should be connected with the language field. Let us have a look to understand it easier.

In the society field, two students covered the theme of The Life of Eskimos with 4 to 5 years old children.

Global objectives were: 1. The possibility to get to know different cultures.

2. Getting to know oneself and other people.

From the global objective deriving objectives were: 1. A child gets to know the life of Eskimos.

2. A child compares the life in Slovenia to the life of Eskimos.

They introduced the theme by reading a fairy tale Miki that was written by Stephen Mackey and that tells about a little girl who lives in Greenland among Eskimos.

After reading the fairy tale they talked with the children about winter in Slovenia and about other three seasons that we know in Slovenia.

A presentation of Greenland where the little Miki lives followed the talk about seasons. In the presentation, there were used different children's atlases and a globe.

In continuation, the work was carried out in two stations. In the first station, they talked with children beside warm clothes about the Eskimo clothes. Children then pinned clothes on a cut-out cardboard little Eskimo body that would be protected from cold. In the next step, they built an igloo out of white paper rectangles. In the second station, they were making a poster that represented the life in Greenland (on one side of the poster) and the life in Slovenia (on the other side of the poster) while talking to children beside cut-out pictures in advance.

Work in stations was followed by individual work. Children received a drawn and dressed little Eskimo Miki and they had to colour her.

In the final part, they learnt an Eskimo greeting – touching with noses.

We can see that the students presented the theme clearly to the children, but they did not notice a connection with other fields, even though one of them is more than obvious, and that is the connection with the Slovenian language that we came across already in the introductory part – reading a fairy tale –, but also in continuation, in the talk about the life in Greenland, the life in Slovenia that was carried out by the help of different books.

Searching suitable themes to make cross-curricular connections, in which we would use reading literary texts that, as we know, among other:

- help a child »*to easier overcome crises in their life*«[33],
- offer a child »*security, eliminating fears, existential dilemmas, learning emotions, understanding oneself and life*«[33],
- help a child to learn to find joy, fulfilment in small things**Error! Bookmark not defined.** such as are a wind's whistling, waves' sounds etc.
- educate a child, as a child learns how to get on in life through identifying with a hero, how to choose the right path, how to react in certain situations[34],
- teach a child about »*culture, customs and ethics of the people and nations that developed them*«[33],
- aid development of imagination, enrich vocabulary and influence verbal and later written expression, develop the ability of concentration[35],
- make possible values' transfer such as are goodness, fairness, trust, help and respecting those that are most helpless and in need of trust and understanding[36],
- face a child with some problems and the way of solving those problems (e. g. a parents' divorce, eating disorders, loneliness that the only child knows, the lack of time that they experience daily, as parents are employed all days etc.)[33],
- tell a child what adults do not tell them, i. e. about taboo themes such as »*love, a child worth of loving, sexuality, a divorce of parents, being different, faith*«[37],
- comfort a child more than a word[38],

leads students many times to make cross-curricular connections that do not make sense, as they choose to cover a society theme by literary texts with totally wrong contents, which as a consequence leads to children's not noticing a connection between a read literary text and the covered society theme. Let as have a look at an example to understand it easier.

[33] Kordigel, »Pouk literarne teorije malo drugače ali Zakaj pravljica v učni načrt za drugo triletje«, 2000

[34] Maličev, »Kot pripovedovalka sem bolj zares z ljudmi«, 2011

[35] Štefan, »Pravljice, ki jih mladi starši pripovedujejo, pravljice, ki jih otroci poznajo«, 2011

[36] Isakovič, »Dan za pravljico«, 2012

[37] Doktor, »Izberi si pravljico in povem ti, kdo si!«, 2009

[38] Ambrožič, »Otrok in pravljica«, 2012

In the society field, students covered the theme of The words thank you and please with 2 and 3 years old children.

Global objectives were: 1. A child learns that all the people in a certain society have to help and collaborate, so that the society can function and enable survival, well-being and comfort.

2. A child learns rules in a group and in a kindergarten on the basis of understanding the reasons for them.

From the global objective deriving objectives were: 1. A child learns about living beings and their environments.

2. A child learns that living beings communicate with each other.

They introduced the theme by narrating a fairy tale Godrnjava pikapolonica (A grudging ladybird). After they finished narrating, they talked with the children how to use the words thank you and please.

In the next step, they put home-made ladybirds around children's heads by the help of pre-school teachers and they all together danced to the chant Pikapolonica (A ladybird).

In continuation, they distributed black and red spots to children, and thus, they divided them in two groups. One group coloured a ladybird by coloured pencils, another group cut out parts of a ladybird from coloured paper and pasted them on a white A 3 drawing paper (a head, antennae, wings, spots).

In the final part, together with children they hung ladybirds that they made in the playing room.

We can see that the students used a fairy tale in which the words thank you and please happen to be to cover the theme of The words thank you and please. Namely, the fairy tale tells about a ladybird that was angry and she was looking for someone to fight with, and in that way, it vented its anger. While looking for a suitable opponent, as the ladybird met a different opponent each hour, the children learnt about numbers.

Apart from choosing an unsuitable fairy tale, in the lesson plan, there is also well evident an unsuitable cross-curricular connection deriving from the written objectives. Namely, the students dedicated a big proportion of the lesson to the nature field while covering the society theme, and that was not the purpose of their class in a kindergarten, as they made the society theme less prominent by doing that.

Described difficulties noticed with the students led to changes in the way of working with them. We directed the work towards practising finding connections between field activities and choosing literary texts and eliciting basic messages from them. We did it, so that:

- we played a game entitled *Let's play a kindergarten* in practical classes with the students,
- the students had homework in which they had to present which literary texts they would choose to cover some society theme.

The play *Let's play a kindergarten* went on so that the students in small groups prepared a lesson plan for a chosen society theme. In getting ready the lesson plan that had to contain all the necessary elements they had to take care that they had as a starting point a literary text that they chose on the basis of the theme. All the groups presented ready lesson plans in such a way that they enacted the content of the lesson plan. One in the group was a pre-school teacher, another one was their assistant, the rest of them were children of the chosen age. While one group was acting, the other groups observed acting and later they also analysed it by questions defined in advance for easier observing.

The homework that they had for a whole semester was for the students to go to the library, to the department for young learners, and to find literary texts for the society themes that they themselves chose. They regularly presented their homework in practical classes, and they did it in such a way that they read to the colleagues the summary of the chosen literary text, and the colleagues had to tell covering of which of the society themes they would use the text for. When they told their suggestions, the student that presented the literary text told about their choice of the society theme and supported their choice by the help of objectives that they found in the Pre-school Curriculum.

In the continuation of this paper, there is presented an example of a cross-curricular connection that makes sense and in which the starting point is the language field in which there was used the coverage of a literary text. The purpose of the cross-curricular connection that was carried out with children aged five to six years was to show how important it is to support the chosen theme by the methods and techniques that involve a child holistically, mentally and emotionally, in the process itself and how important it is to have in front of our eyes all the objectives that we want to achieve by different activities in a certain field. To that purpose, the presentation of the fields and objectives – taken from the Pre-school Curriculum –, that were realised within individual filed will follow the description of individual steps of the coverage of the society theme *How do we get bread.*

EXAMPLE OF CONNECTING ALL SIX FIELDS BY THE AID OF A LITERARY TEXT

I made children to sit in a Turkish way on the floor in a semi-circle in the station that was intended for our work together, so that they all saw me well, as in continuation, I was telling them about a short literary text by the author Tomaž Lapajne entitled Od kod si, kruhek (Where do you come from, a little bread) by using pictures that I copied from the book on a bigger format and plasticified and one after the other pinned to a big board with a background (the pictures of wheat, flour, mill, combine, different sorts and forms of bread, bakery, rising dough) appropriate to the fairy tale by the help of the puppet named Ana in my hand.

> *The starting point of coverage of the theme How do we get bread is, as we see, the language field in which the realised objectives were: 1. A child experiences comfort, joy, fun with a book, they connect aesthetic and physical comfort and acquire a positive attitude towards literature. 2. A child identifies themselves with the character from the book and experiences action in the book. 3. A child listens to the language in every-day communication and is involved in communicational processes with children and adults (non-verbal and verbal communication, cultural communication, communicational styles, politeness).*[39]

[39] Bahovec, E. et. al. "Kurikulum za vrtce", (1999): 19

After telling about the literary text, I talked with the children about the content of the fairy tale by the help of pictures that I pinned on a big board while narrating and asking short questions prepared in advance and in detail, and by that the procedure of getting bread, but in reversal, the procedure from the final product, bread, to the wheat, a plant that is necessary to get it.

When talking about the content of the fairy tale that we read, the starting point was the language field again. When we summarised the text, there was present the nature field, as the children learnt about the procedure of producing bread, and the society field, as the literary text presents the importance of collaboration between different people, so that a final product is made. The language field objectives were: 1. A child gets to know a word, a book as the source of information. 2. A child listens to the language in every-day communication and is involved in communicational processes with children and adults (non-verbal and verbal communication, cultural communication, communicational styles, politeness). 3. A child learns to narrate independently. 4. A child develops the language capability in different functions and situations in every-day activities and in different social situations. 5. A child develops the language on all linguistic levels (from the phonological and morphological to the syntactical and semantical). 6. A child expresses themselves creatively in the language. The nature field objective was: 1. A child develops the sense of when and what happened and the sequence of actions. The society field objectives were: 1. A child learns that all the people in a certain society have to help and collaborate, so that it can function and enable survival, well-being and comfort. 2. A child learns about professions. 3. A child develops the interest and satisfaction when they are discovering the wider world out of their home town.[40]

Namely, in the fairy tale the little girl called Ana finds a ring in bread, and as she wishes to find its owner, she goes to a shop, as she thinks, as all the small children do, that bread is produced in a shop, as parents bring it from there home. The shop assistant who sells all other dough goodies apart from bread tells to the little girl Ana that he did not lose the ring. He sells in the shop the bread that is already baked and his ring could not be found in it at all. The little girl Ana goes to the baker who transforms the dough with his all ten fingers in tasty bread, but the baker tells her that he did not lose the ring while he was preparing and baking bread and he tells her to go to the mill worker who grinds wheat into flour. The mill worker tells her that he did not lose the ring. The little girl Ana is left with the visit to the farmer who on a farm plants a seed from which wheat grows. The farmer who produces wheat, which is an important ingredient for making bread, does this on a farm by a lot of effort and work, and he tells her happily that the ring is his.

A short summary of the read literary text for easier representation in the continuing coverage follows.

After the literary text was summarised, I asked the children if they knew to tell how we get bread from wheat. I put in front of them pictures which represent the farmer's work, the mill worker's work, the

[40] Bahovec, E. et. al. "Kurikulum za vrtce", (1999): 19, 20, 33, 34, 38

baker's work and the shop assistant's work, and I asked them to put them in the right order. When children put the pictures, as they thought it was right, and it was really right, we also described the pictures.

> *In putting four pictures in the right order, the starting point was the nature field, as the children observed the procedure of making bread, but there was present the field of maths at the same time, as the children had to put the observed pictures in the right order. The nature field objective was: 1. A child develops the sense of when and what happened and the sequence of actions. The maths field objective was: 1. A child classifies and distributes.*[41]

The set of pictures that the children came up with was compared to the set of pictures on the big board and it was found out that the pictures on the big board were reversed, in the opposite direction. I distributed to the children another set of pictures, i. e. four pictures from the literary text (pictures that show the little girl Ana at the shop, in the bakery, in the mill and on the farm), and I asked them to describe the four pictures and to put them in the right order above the order of the pictures that we set in advance and which represent how we get bread.

> *The comparison of orders had as a starting point the maths field, as the children put the pictures in the right order, but there was present the nature field and the language field, as the children described the procedure of making bread in their own words. The maths field objectives were: 1. A child classifies and distributes. 2. A child uses the expressions for describing the positions of objects (above, beneath, left, right …). The nature field objective was: 1. A child develops the sense of when and what happened and the sequence of actions. The language field objectives were: 1. A child develops the language capability in different functions and situations in every-day activities and in different social situations. 2. A child develops the language on all linguistic levels (from the phonological and morphological to the syntactical and semantical). 3. A child learns to narrate independently. 4. A child expresses themselves creatively in the language.*

I asked the children what they noticed. They found out that the little girl Ana in the book also learnt how we get bread. When they found out that, I opened the book on the last page on which there was written a recipe. I read the recipe to the children and I asked them what I read a while ago. The children told me that it was how we make bread.

> *Learning about a recipe to make bread belonged to the language field. The objective of this activity was: 1. A child listens to different literary genres and learns about the differences and similarities between them.*[42]

[41] Bahovec, E. et. al. "Kurikulum za vrtce", (1999): 19, 20, 38, 45

[42] Bahovec, E. et. al. "Kurikulum za vrtce", (1999): 20

I suggested to them to make their own bread. The children agreed immediately. Before we started our work, we created our own recipe. We did it in such a way that I read to the children once more the ingredients that they need to make bread, and they wrote them and drew them on a poster.

> *In the making of the poster, there were included the following fields: the art field (visual art) (a child cuts pictures and pastes them on a poster, a child draws on a poster), the language field (a child verbalises what they do during the making of a poster, a child writes short words), the maths field (a child counts the ingredients that they drew/pasted/wrote on the poster) and the nature field (a child presents the procedure of producing bread with pictures that they pasted on the poster in the appropriate order). The art field objectives were: 1. A child uses and develops skills. 2. Encouraging a child's creativity. 3. Developing spatial senses. The language field objectives were: 1. A child listens to the language in every-day communication and is involved in communicational processes with children and adults (non-verbal and verbal communication, cultural communication, communicational styles, politeness). 2. A child develops the language capability in different functions and situations in every-day activities and in different social situations. 3. A child develops the language on all linguistic levels (from the phonological and morphological to the syntactical and semantical). 4. A child expresses themselves creatively in the language. 5. A child develops pre-reading and pre-writing abilities and skills. The maths field objectives were: 1. A child uses the names of numbers. 2. A child classifies and distributes. 3. A child uses symbols, they write actions by symbols and describe a state. The nature field objective was: 1. A child learns about a working process and develops an appropriate attitude towards work.*[43]

Bread-baking followed. We first washed our hands, put on aprons and caps and started work. I myself started preparing the dough, as the children said that they do not know how to do it and they would rather read to me our recipe, so that I do not forget any of the ingredients. When the dough was made, I divided it into one bigger piece and 20 even small pieces that I offered to the children. Out of the bigger piece I made big bread. Out of the small pieces the children, when they sat at the tables, made their own bread or we called them rolls, as they were little breads. We marked the rolls by little flags on which we wrote the names of the children and put them on a special plate and took to the kitchen where the cook put them in the oven.

> *Bread-baking included the nature field (we baked bread according to the set recipe), the language field (we were all the time describing what we were doing), the art field (visual art) (the children were making their little bread or roll), the physical exercise field (the bread-baking preparation itself). The nature field objectives were: 1. A child discovers and learns how entities mix and how they change their characteristics. 2. A child learns about a working process and develops an appropriate attitude towards work. The language field objectives were: 1. A child listens to the language in every-day communication and is involved in communicational processes with children and adults (non-verbal and verbal communication, cultural communication, communicational styles, politeness). 2. A child develops the language capability in different*

[43] Bahovec, E. et. al. "Kurikulum za vrtce", (1999): 20, 24, 39, 44, 45

functions and situations in every-day activities and in different social situations. 3. A child develops the language on all linguistic levels (from the phonological and morphological to the syntactical and semantical). 4. A child expresses themselves creatively in the language. The art field objectives were: 1. A child uses and develops skills. 2. Encouraging a child's creativity. The physical activity objective was: 1. Getting to know the basic principles of the personal hygiene.[44]

While the bread was being baked, we played a game called Is bread already baked that the children learnt from the grandmother of one of the children in the group.

With the game Is bread already baked we included the society field and the physical exercise field. The society field objectives were: 1. A child has got a possibility to develop the abilities and ways of establishing, sustaining and enjoying friendly relationships with one or more children (that includes problem solving, negotiating and coming to an agreement, understanding and accepting view-points, behaviours and feelings of others, politeness in mutual communication etc.). 2. A child gets to know gradually a wider society and culture. The physical activity objective was: 1. Introducing children in the games in which they need to obey rules.[45]

The social game was followed by the work in stations. In one of the stations, the children were scanning the literary texts that were telling about bread, its making etc. [46] , in the second station, the children watched a video on making bread online[47], in the third station, the children were making a poster about producing bread.

The station activities included the following fields: the language field, the art field (music, visual art) and the nature field. The language field objectives was: 1. A child gets to know a word, a book as the source of information. The art field objectives were: 1. A child uses and develops skills. 2. Encouraging a child's creativity. 3. Developing spatial senses. The nature field objectives were: 1. A child discovers and learns how entities mix and how they change their characteristics. 2. A child learns about a working process and develops an appropriate attitude towards work. 3. A child develops the sense of when and what happened and the sequence of actions.[48]

[44] Bahovec, E. et. al. "Kurikulum za vrtce", (1999): 15, 19, 20, 39

[45] Bahovec, E. et. al. "Kurikulum za vrtce", (1999): 15, 33, 34

[46] Literary texts used in the station: Od kod si, kruhek (Where do you come from, a little bread?) (Lapajne T.), Kruhek je šel po svetu (A little bread went to travel the world) (Jamnik Pocajt T.), Rdeča kokoška (A red chicken) (Timmers L.), Pekarna Miš Maš (The Mouse Mash bakery) (Makarovič S.), Kmet in trije peki (A farmer and three bakers) (Podgoršek M.), Lonček, kuhaj (A little pot, cook) (a folk fairy tale)

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[48] Bahovec, E. et. al. "Kurikulum za vrtce", (1999): 20, 24, 39

When the rolls and bread were baked, we tried them or we tried bread, as the children decided to take rolls home and eat them together with their parents.

By tasting the baked bread, the children reached the following society field objective: 1. A child acquires good, but not rigid eating habits and they develop sociability connected to eating.[49]

To finish off, we danced to a chant Ob bistrem potoku je mlin (There is a mill by the clear stream) that we listened to during the station work.

With the dance we included the physical exercise field and the art field (music, dance). The physical exercise objective was: 1. Acquiring the basic elements of folk chants and other dance games. The art field objective was: 1. Encouraging a child's creativity.[50]

CONCLUSION

A pre-school teacher has got a difficult task each time they enter the room in which the children eager to get attention, play and knowledge are waiting for them, and they are testing on a daily basis the limits a pre-school teacher sets them. That is why it is extremely important that a pre-school teacher, especially an inexperienced student, continually educate themselves independently by reading different professional literature in which they find answers to the questions connected to:

- planning and carrying out cross-curricular connections, the ones that make sense and the ones that do not (the ones that make sense as a model, and the ones that do not make sense to recognise and eliminate mistakes that they make),
- knowing the development of a pre-school child and bearing that in mind when organising the educational process,
- using the most appropriate methods of teaching differently aged pre-school children,
- knowing different methods and techniques when teaching pre-school children,
- really good theoretical knowledge of the themes to be taught to children etc.

The wider the range of knowledge that a pre-school teacher possesses, the easier will be their every-day work with children, as they will know how to respond to children, their needs, wishes, special traits etc.

The cross-curricular connection presented in this paper was designed on the basis of:

- knowing the Pre-school Curriculum, i. e. on the basis of knowing general objectives and principles, as they represent the basis of knowing the individual field activities and global objectives and the objectives derived from the global ones that are written within the individual field,

[49] Bahovec, E. et. al. "Kurikulum za vrtce", (1999): 34

[50] Bahovec, E. et. al. "Kurikulum za vrtce", (1999): 15, 24

- knowing different theories on the brain functioning that tell that the brain works best when it connects the acquired information in some whole,
- the knowledge of the importance of a child's holistic, mental and emotional, active involvement in the learning process,
- the knowledge of the law of transfer of the known to the unknown,
- the knowledge of the importance of the fairy tale in a child's life.

The presented knowledge that was important in designing a quality cross-curricular connection was acquired on the basis of independent education with a desire to learn as much as possible, so that the work with children will be easier, more pleasant, more successful for them as for me. Without studying the professional literature the cross-curricular connection that was carried out would not be carried out that professionally, as it was.

That it is why it is extremely important that students, future pre-school teachers, get aware of the importance of continual professional education. Sometimes it is best to do it by the help of the lecturer's own model, as students see as a model first the one who is teaching them in the lecture room. And if the one who teaches them something specific can concretely show and prove what they are talking about, it is a big privilege for students, as they prevent students to make some mistakes.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

INTERPRETATIVE OPERATIONS FOR TEXTUAL COMPREHENSION: CASE STUDY OF THAI UNIVERSITY STUDENTS OF THE FRENCH LANGUAGE

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Abstract

The main purpose of this research is to survey the interpretative operations for French comprehension. After reading a short text, the students sampled explained the activities they realized in the course of reading. They also were asked to justify them. With the retrospective reformulation of their reflections, we can learn their level of metacognitive competencies and better determine how they can maintain or improve them. The results of the research outline the strong and weak points of the students, not only in their capacity to comprehend texts, but also, in their ability and competence to justify answers and to give opinions. This latter practice is not frequent in Thailand, as in other part of the World, despite its importance to the learning process. It is the opinion of the author that metacognition is a defining factor towards gaining learning autonomy, and this, in all facets of learning situations and processes. The protagonists should therefore take it fully into account in order to better prepare the strategic learners of tomorrow.

Keywords: *comprehension processes, comprehension, reading, metacognition, interpretation*

1. INTRODUCTION

> "First, let's clarify one thing: reading is understanding. Someone who does not understand, does not read."

If comprehension is the desired result of the reading activity, a core quality of any reader is the ability to understand. The nature of the comprehension process is neither spontaneous nor innate. The ability develops over time with the gradual use of "good" strategic learning practices.

Many parameters enter into play such as the reading objectives, the textual components, the characteristics of the readers, the object of the text, the level of difficulty of the text, etc. Consequently, in order to train good strategic "readers", it is imperative to vary the exercises and the reading situations they face because always using the same strategies for always similar reading situations can bring bad habits and complacency. In other words, instead of having to think about the different parameters necessary for the interpretive processes, the readers will only use the same unchanging approach over and over. Creating such a habit is not the best way to improve one's learning capacity, and therefore understanding, in the long run.

My previous research of the school system in Thailand demonstrates the creation of such a habit in training for reading. During the first primary school years (Prathom 1 to 3, equivalent to grades 1 to 3), children in all of the public schools must use the schoolbooks chosen by the Department of Education. These impose exercises emphasizing repetition: the students are asked to read out loud the words considered new, and then read the text in its entirety and, finally, they must answer a series of questions.

The texts are narratives and most of the questions follow the same formulas: "who does what, how, when, why, and where?" This form of schoolwork is repeated during the three successive school years but also, with some nuances depending on the evolution of the competencies of the learners, during the following years until the end of secondary school (Matthayom 6 or grade 12). With this repetitive approach, the students are trained in using one sole approach, becoming habitual, for textual treatment. They do not think to employ other strategies as they are continuously compelled to use a strategy that may not be appropriate to other reading situations or contexts.

2. READING – COMPREHENSION

I will now try to delineate an interpretive process. In order to do so, I will adapt the views of F. Verreault and M. Pelletier who share U. Eco's conception on the subject. The reading situation is divided into three phases. The first, the impregnation phase, comprises the manner with which the text is approached in order to establish a dialogic rapport and allow the reader to prepare for the use of all perception capabilities. It is also the moment for the reader to analyze all the contextual conditions and the significant parameters for the selection of an interpretation strategy.

The second phase is the creative exploration. During it, the reader will employ his previous knowledge and acquired skills to select those competencies that are useful to the situation at hand. The third phase, the synthesis, consists of assembling and ordering the ideas and notions towards significant points of convergence. The reader therefore goes from the representation tools to a global understanding.

In summary, during the interpretive process, and using the various available tools, the reader constructs a set of representations, which disappear once the work has been completed. The reader will forget the linguistic information, to go through a further deepening, a widening, of the content understanding. The reader will pull himself out of the closed words and sentences comprehension (most of which he forgets quickly) to a more general and global understanding.

3. LINK BETWEEN COMPRENHENSION AND INTERPRETATION

I share E. Falardeau's view pertaining to the concepts of comprehension and interpretation, two relatively close notions. This author conceives the relationship between the two concepts thusly:

> "The sense, the meaning, constructed by comprehension and signification coming from interpretation are feeding off one to the other."

This explanation demonstrates the close relationship between the two activities. The meaning is an integral part of the text, signification is an external part. The latter is created by the reader-interpret trying to create new symbols from those he perceives within the text. Interpretation is therefore a process leading towards comprehension.

These two mental activities are complementary to one another. As E. Falardeau does, I believe that during an interpretive reading, both comprehension and interpretation are being conducted at the same time. In other words, the reader first understands the linguistic signs and the organisation of the text. For example, he is able to identify the language used, to recognize the grammatical rules and their functions in the text, to survey the structure of the text and so forth. The reader must employ a variety of skills and notions such as the stereotypical, lexical, syntactical, historical, sociocultural, experimental knowledge. The reader therefore uses the text to create mental images but these images are not yet placed into a whole context. In fact, they solely remain a series of images stacked one upon the other.

Consequently, in aiming to obtain a finer understanding, we must make use of interpretive operations, the results of which is significant. We must stress that the view of the interpreter is no more globalizing than that of the reader through in understanding process. It comes from outside of the text (mental imagery) and uses recurring possibilities that may enlighten the whole of the text. In other words, comprehending a text is to give signification, to presume that it means this or that. Interpretation is the perception of the subject-reader about an object-text. The interpreter concentrates himself on those elements most interesting or most significant to him in order to create a meaning that is most personal.

Significance does not necessarily come out of the text but it is inspired by it in an explicit manner. The text is therefore aimed at a subjective reader, in his own personal universe, but also at a collective of readers, each with his own personal universe. After all his actions, the reader assigns a meaning to the text, in other word, he synthetises his understanding. In many cases, the meaning, obscured by the words and sentences, comes from a socially acceptable consensus.

4. CONSTITUTIVE PARAMETERS OF INTERPRETATION

Using U. Eco's views, I will now examine three factors that can influence interpretive operations. The first parameter touches the characteristics of the document: the components of the text, for example, the language used in the text, its theme, its length, its structure, and so forth. The second factor, the characteristics of the reader examines, among others, the previous knowledge, the linguistics competencies, the interests, and the objectives of the person reading the text. Interpretation is therefore closely linked to the life of the reader: his social and cultural experience, his knowledge, his emotions, his tastes, etc. Lastly, the intention of the author within the message or the text is presented in a more or less explicit manner, depending on written style as well as the type of text. The more an author explains explicitly his meaning, the easier it is for the reader decides how to best interpret the text.

Logically, if we want the reader's interpretation to correspond to the message that the author wanted to convey, both protagonists must share the same level of competency and the same knowledge. Nevertheless, because the writer is not present while the reading is going on, there is no certainty as to the quality of the understanding. The interpretation remains the most plausible hypothesis available. There are no true or false interpretations. Rather, they either are plausible or implausible, superficial or discerning. This gives an undetermined quality to the interpretation, which compels us to pursue the study further.

The act of interpreting follows five characteristics. The first is plurality, an esthetic dimension of transitory nature. The interpretation depends on the subjectivity of the individual. Interpretive operations are realized through cognitive processes. They are done from within the individual but aim at understanding the outside world. Furthermore, interpretation implies a mediated relationship between author, reader, the mediator (the text) and the goal of the reading. We endeavor to understand the messages transmitted by another and, potentially, to transmit them to others. Interpretation is a social

activity but closely linked to the deep individual self. Indeed, the reader exists within a community, which has conditioned him to its ideology or set of beliefs. Those socially accepted stereotypes are what compose the cultural background. Comprehension is therefore socially conditioned; it is not only an independent process. Finally, interpretation implies a search for meaning out of a heterogeneous composite and a linear format resulting in a non-linear construct, the mental images.

Understanding is the creation of mental representations, of mental images. In other words, it is the capacity of representing concepts and ideas through thoughts. To create those mental images, we need the interaction of two types of thought processes, so says J.P. Guildford, the American psychologist. The first is the "divergent thinking" which is the capacity to generate a multitude of ideas going into multiple directions. The other is the "convergent thinking" which is the capacity to select and to order the ideas depending on the precise goal set. This interaction is done within a cultural and historical context unique to each individual. This explains why people of different cultures have different views and interpretations of a same text.

5. OBJECTIVES AND ANALYSIS OF THE DATA

The objective of this study was to examine the interpretive operations necessary to understand a text written in the French language. This led me to examine the learners' knowledge level necessary for textual comprehension. The Thai university students of French examined in the present study have a level of understanding that is not limited to literal understanding. They should be able to perceive the implicit messages, signals, transmitted through the text. Indeed, these students are considered "independent" under the Common European Framework of Reference for Languages (CEFR). In the short space allowed me here, I will concern myself only with their interpretive operations.

The subjects studied had to read a certain number of texts then, to answer a series of questions pertaining to their reflections and interpretive operations. Considering the number of past practical exercises they had done, I made the assumption that those students had acquired the necessary metacognitive competencies and knowledge to be able to explain and justify the activities they realized during the interpretive operations. They should notably be able to remember the steps they accomplished in order to understand the texts. From there, using U. Eco's concepts, I will organize the interpretive operations in three successive phases: impregnation, exploration and synthesis.

6. ANALYSIS RESULTS

6.1 Interpretation constitutive parameters

I will explain the constitutive parameters of interpretation within the context of the present study. Let's start by the texts characteristics. The students read a series of text in the French language that each had a title, a given source and illustrations such as diagrams and images. Generally, the length of the texts was between a hundred to a hundred and fifty words. As for the subject matter, it was also diversified: from everyday life issues to French work related laws.

Most of the subject matters remained within French culture of which the students had some previous knowledge. These documents were written texts whose content was not to be extremely difficult for the students. The texts were authentic document whose content was not initially intended for a foreign readership. Consequently, the language and the style used remained natural and similar to what French

readers face on a daily basis, the product having not been created for foreigners in mind. It will therefore be possible to evaluate the competence of the Thai students in relation to their French counterparts.

Concerning the characteristics of the reader, it must be stressed that French is but a second foreign language, after English, for the students being examined. I believe that some competencies and knowledge can be transferred from the first foreign language as well as from the mother tongue to the competency in French of the students. Such transfers can be positive if such information and activities are adaptable to the language being studied. Nevertheless, because of the wide differences between language systems, from Thai to French, certain acquired reflexes and operations can be inefficient or of little use for comprehension in the new language.

At their level of schooling, the students have enough knowledge of French to be able to understand messages transmitted implicitly such as inferential understanding. Nevertheless, when faced with proverbs and uncommon sayings, the students may be taken aback and unable to understand quickly. The understanding of the context as well as the search for definitions and other information can most probably help in tackling these difficulties.

6.2 Interpretive Operation

After reading the texts, the students explained what their activities had been, most of which were similar from one text to the other despite their variety. This can be explained by the ingrained youth habits, for activities made in the course of reading, of Thai language students. The students were indeed trained to use specific and identical strategies at school. In reality, in Thailand, all the schools must employ the same national curriculum, explained in the introduction, during the time indicated by the Ministry of Education. Despite this, I attempted to classify the recorded activities using three sequential steps.

6.2.1 Impregnation

This first step's goal is to prepare oneself for the interpretive operations. It is the moment the reader plans the reading process, a metacognitive competency.

The students observe the text's macrostructure such as its length and its "paratextual" elements comprising illustrations, title and source. Then, some students planned how to proceed with the work. The observation period allowed them to estimate the time necessary for the reading, the efforts necessary to complete every part of the text. Some students therefore showed metacognitive skills in recognizing their own state of mind concerning the reading to be done. Here are their explanations:

- "I know my weak spot while reading. I get easily distracted by other more enticing things which can stop me wanting to pursue reading."
- "Before reading, I like to empty my mind in order to better concentrate on the interpretive operations to be achieved."

On top of the introductory observation of the texts, and because many students are anxious when facing foreign language documents, assuming they will face great difficulties and complications, they often make use of other tools such as dictionaries. This preparation would not be done had the work presented to them been in their native language. For them, such preparation will make the process more efficient and insure the success of interpretive operations.

6.2.2 Exploration

It is at this stage that the readers attempt to assemble the necessary knowledge pertaining to the text in order to shape mental images or understanding.

The first contact of the readers is the taking into account of the title, a guide for operative operations. This allows them to have a first guess at the content of the text. One of the student studied substituted himself for the author in trying to divine the details of the following content. Another student used his previous knowledge on the subject, in other words, his “intra-individual” knowledge.

For its part, the source allows the discovery of the type of text, on the one hand, and gives guidance on the details of the text, one the other hand. All of the students therefore tried to find guidance tools in order to facilitate their introduction to the texts. Some looked at the length of the text, trying to evaluate the time necessary to complete the reading.

Four different approaches were used in order to monitor the text. First, some students looked at the global content of the text, highlighting the unknown vocabulary. They are of the opinion that understanding the words is of primordial importance in reading in a foreign language. Some other students focused on the first and the last part of the text. These students believe that the main ideas in the text are found in those portions. Two students used their metacognitive knowledge in order to select the useful information for dealing with the text.

In their initial try at interpreting the text, the students tried to understand its global meaning. Afterwards, they looked at more discrete or precise elements of the text such as its vocabulary. They therefore verify the coherence of the lexical interpretation in the now better known context. Some learners controlled, checked, their interpretive operation by subdividing the texts into many parts and then looked at each of them in order to lessen the possible confusions or mistakes. Some students looked at individual paragraphs, either to recognize the links between the paragraphs or to verify their lexical understanding.

Some others focused on the sentences. For them, it is a more efficient and deliberate approach because textual comprehension is realized at that level. The “strategy” skill of one learner had him believe that word by word translation is a way to better insure the coherence of the comprehension. Three students made used of their linguistic knowledge, notably syntax and verb tenses understanding. The acquisition of such knowledge seems useful to them for the next readings, therefore demonstrating their “task” skill.

Finally, some students spent time trying to identify the mains ideas of the text. In parallel to the comprehension of the capital ideas, the students looked up the definitions of the unknown words on the Internet or in French-Thai and French-English dictionaries. It is surprising that no-one made use of the solely French dictionaries which are supposed to be accessible at their proficiency level.

6.2.3 Synthesis

This step in the comprehension process comprises the activities necessary for the creation of mental images, which are tantamount to textual comprehension. These images are created by the minds of the readers with the information acquired in the course of the reading. As the activity is naturally and intensely personal, it is quite possible that each individual will have different images than those of others despite having read the very same texts. In the same vein, each individual may choose different interpretive operations than his peers. We will therefore look at the ways we may define the various representations during the comprehension of the texts.

The analysis tells us that, in order to identify the main ideas of a text and to obtain an adequate understanding, in other words, to select the appropriate representation-tools, the student will take charge of the interpretive process the following ways:

- by reading the text sentence by sentence;
- by reformulating each sentence;

- by creating paragraphs using translated sentences;
- by placing the situations encountered in their chronological order.

Since textual treatment remains at the level of the sentence and phrase, linguistic knowledge, most particularly a grasp of verb tenses, is emphasized. Afterwards, many students tried to establish the links between the various levels of the text, such as between paragraphs and the whole text.

Verbal reformulation of the comprehension allows students to better comprehend the text because they must continuously question their mental representations. In order to verbally express their representations, the learners had to analyze the sentences by identifying their various components such as the verbs or the subjects and they had to answer very basic questions about them such as: "who does what?, how?, why?, where?" Some students therefore demonstrated their use of metacognitive skills:

- Strategy skill: "Doing this facilitates the comprehension and the memorization of the content."
- Task skill: "Every reading is an opportunity to acquire new knowledge."

The drafting of a summary, another reformulation tool, helps the students in creating the mental representations. This practice assists the students in refining their textual comprehension, in gathering all the newly acquired knowledge and, also, in evaluating their satisfaction with the strategies they used. Lastly, group discussions with other students will help in clarifying some aspects of the texts that had remained unclear until then.

7. DIAGRAM OF THE INTERPRETIVE PROCESS

In closing this piece, I endeavor to illustrate the interpretive operations with their feedback stage for the cases where the mental representations created are not adequate for the reading situation at hand. This model can be adapted to any reader. It will help that reader in attaining the fundamental goal of reading, which is the comprehension of the message transmitted by way of the text, through a series of planned steps using introspective thoughts.

In order to illustrate the different steps of the interpretive operation, I borrowed the model developed by L. Trudel, C. Parent and A. Métioui and adapted it in order to make sure that its parameters were adequate for the objectives of my survey.

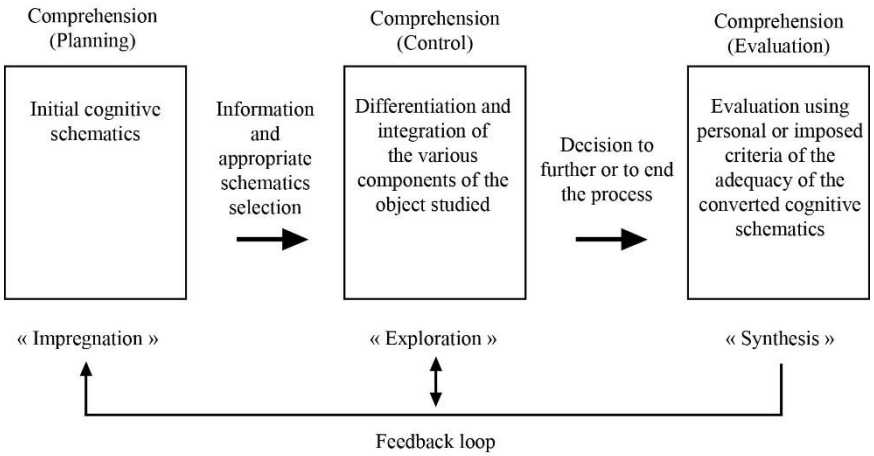

Figure 1: Textual comprehension process

I distinguish three steps, which are, in reality, simultaneous: the impregnation phase, the exploration phase and the synthesis phase. First, before the reading itself, the reader will observe, on the one hand, the context and conditions of the reading such as the instructions given by the professor, the size of the text, the knowledge and skills required, the goals in reading the text and the necessary tools. On the other hand, the reader will examine his mind-set regarding the reading and the knowledge and skills he has previously acquired. Before entering the next phase, the reader will choose how to go about the work or plan how he will reach the goals set. During the exploration phase, the reader will control or regulate the various operations in order to attain the desired results. The decision to enter into the last phase depends on the satisfaction of the reader with the results he obtained. If he is satisfied, he will continue on to the synthesis phase in order to choose the appropriate mental representations and to evaluate the work achieved. If he is not satisfied, the reader will start over the first and second phases until he is satisfied with the results and can therefore move on to the last phase, evaluation or synthesis.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

INTERDISCIPLINARY TEACHING APPROACH

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Abstract

This article presents the Interdisciplinary collaboration and its potential and value for the modern education process. It also shares several examples from author's experience in Teaching Foreign Languages and further conclusions about cross-disciplinary work.

Future is hold by those who are prepared to work in team and to create new products putting together knowledge from different scientific fields.

A few years ago the author got a chance to meet a famous scientist and explorer who has discovered for him this approach with several examples of collaborative work. Then the author has been keeping his eyes open to everything surrounding his life and he has tracked a good amount of examples of cross-disciplinary work. Now he realizes this is one of the major challenges for the educators today, and it´s a fundamental step in the process of creation of future leaders which we´re attempting to develop.

Key words: *interdisciplinary curriculum, cross-curricular teaching, collaboration, significant learning, lifelong*

1. DEFINITION & BASIC CONCEPTS

The roots of this new tendency could be found back in the 80s. A basic definition is offered by Humphreys (Humphreys, Post, and Ellis 1981) when he states, "An integrated study is one in which children broadly explore knowledge in various subjects related to certain aspects of their environment".

All kind of definitions support the view that integrated curriculum is an educational approach that prepares young people for lifelong learning. There is strong belief that schools must look at education as a process for developing abilities required by the life in the twenty-first century, rather than a discrete, departmentalized subject matter. The interdisciplinary curriculum should be a combination of subjects, an emphasis on projects, sources that go beyond textbooks, should be a relationships among concepts, thematic units as organizing principles, flexible schedules, and flexible student groupings.

In the 90s Content and Language Integrated Learning (CLIL) was documented for first time by the European Platform EUROCLIC (http://www.europeesplatform.nl/sf.mcgi?id=96), and was the first significant achievement in this area. They based their theory on the fact that learning a language is a cognitive and natural process, and that a foreign language can be taught through many academic disciplines, different than the language per se (Marsh 2002). It´s a process where "the FLTeaching is not the goal of one and the same subject, but of the whole academic curriculum" (Baeten 2009).

The greatest benefit of the CLIL approach is that a student stays in contact with the target language much longer, and the most important, its use is contextualized, i.e. it is given a real sense. In the practice, this means that subjects like Biology, Geography and Mathematics, for example, can be taught in the target language, broadening this way the communicative contexts. Actually, there are many schools around the world that have implemented this approach in their curriculum. For instance, in Bulgaria

there are the popular Bilingual High-schools. Of course, this methodology requires that teachers from different disciplines collaborate much closer than usual, offering students a bunch of logically related activities which allow them to catch up easily with the material and to connect the logical dots between the variety of academic disciplines.

The CLIL is still an innovative and challenging process, but it was just the beginning of something that is much bigger today: the Interdisciplinary collaboration. What started out like teaching integrated contents through different subjects, now is a cognitive approach where knowledge from different fields is put together in order to create new products.

We have gone about as far as we can go with isolated instruction and learning. Many teachers around the world are still stuck at their specific fields and they are having hard time finding other ways and new discoveries. This is outdated. While it may have served the purpose for the older generations, it does not meet "the deeper learning needs of people today and tomorrow". (Johnson 2013). Students today have to learn how to be great contributors tomorrow. Deeper learning can be accelerated by consolidating teacher efforts and combining relevant contents, in effect, opening new spillways of knowledge. It´s absolutely impossible to educate a new collaborative generation of people without the clear conviction of the educators. The biggest challenge for the teachers is that we have to show students how to work in team, how to share and how to use the received knowledge from their colleagues. A translation of all these words to some simple examples would be to get back to the Bilingual High-schools scenario, where, for example, students are given the task to create a resume in Spanish of several definitions and formulas in Chemistry, and after that to create HTML version of this information. What do we need for this? On first place, a good team of teachers in Spanish, Chemistry and IT, who are flexible enough so the Syllabus of each one of them can fit into the learning methodology of their colleagues.

Cross-curricular teaching involves a conscious effort to apply knowledge, principles, and/or values to more than one academic discipline simultaneously. The disciplines may be related through a central theme, issue, problem, process, topic, or experience (Jacobs 1989). The organizational structure of interdisciplinary collaboration is called a theme, thematic unit, or unit, which is a framework with goals/outcomes that specify what students are expected to learn as a result of the experiences and lessons that are a part of the unit.

Interdisciplinary teaching is often seen as a way to address some of the recurring problems in education, such as fragmentation and isolated skill instruction. It is seen as a way to support goals such as transfer of learning, teaching students to think and reason, and providing a curriculum more relevant to students (Marzano & Perkins 1991).

This new approach also corresponds perfectly to 4Cs of the 21st century education: critical thinking and problem solving; communication, collaboration; and creativity and innovation.

Interdisciplinary instruction allows us to understand our preconceptions of "what is" and the framework by which we reached to this question. It also fits with recent advances in learning science about how to foster learning when students bring powerful pre-existing ideas with them to the learning process. Bransford (2000) drawing on scientific research findings from the fields of neuroscience, cognitive science, social psychology, and human development afirms that interdisciplinary forms of instruction, help students overcome a tendency to maintain preconceived notions. This is accomplished by recognizing the source of the preexisting understandings they arrive with, and by introducing students to subject matter from a variety of perspectives that challenge their existing notions. Interdisciplinary instruction accomplishes this goal by helping students identifying insights from a range of disciplines that contribute to an understanding of the issue under consideration. Also, it allows students to develop

the ability to integrate concepts and ideas from these disciplines into a broader conceptual framework of analysis.

When students put aside their pre-existing notions they position themselves to learn facts more readily and are more open to adopting a range of methodologies that promote understanding. Teachers can thus spend more time exploring issues with them that promote significant learning.

Significant Learning (Fink 2003) takes place when meaningful and lasting classroom experiences occur. According to Fink, when teachers impart students with a range of skills from different areas, and insights about the educational process, better student engagement in the learning process and greater learning occurs. Fink identifies several elements of the educational process that lead to significant learning and each of these is considered a common feature of interdisciplinary forms of instruction:

- Foundational knowledge – acquiring information and understanding ideas
- Application – acquiring an understanding of how and when to use skills
- Integration – the capacity to connect ideas
- Human Dimension - recognition of the social and personal implications of issues
- Caring – acknowledgment of the role of feelings, interests, and values
- Learning *How-to-Learn* – obtaining insights into the process of learning

Interdisciplinary teaching approach fosters the acquisition of foundational knowledge combining ideas from multiple disciplines. It also provides an insight on how to apply knowledge and keep learning from new experience. Moreover, students are encouraged to account for the contribution of disciplines that highlight the roles of caring and social interaction when analyzing problems. Students are expected to find interdisciplinary education engaging and thus an effective way to advance their understanding of topics under investigation.

2. LIFE-LONG LEARNING

Many authors try to explain why the integration of the performing arts and social studies enhances both the teaching and learning of the disciplines throughout a lifetime. For instance, a history teacher in her study says “I feel that arts integration is important in the overall educational experience. The cultural benefits are one reason that I favor the inclusion of the arts. Another reason is the cognitive enhancement that music and arts education offers students of all ages” (Taylor 2008, p.236). Taylor concludes that “Interdisciplinary work by both educators and students may broaden students' knowledge of history and diverse cultures. Including the arts in social studies instruction may have pedagogical benefits as well because the inclusion would facilitate differentiated instruction” (Taylor 2008). While there are many statistical reports which conclude that students of interdisciplinary techniques have higher test scores in both core knowledge and critical thinking problems, there is also a need for interdisciplinary techniques to better remember basic discipline lessons later in life. In an article titled “Interdisciplinary Instruction”, Laura Duerr explains the importance of an interdisciplinary approach to the life of a student by stating, “With interdisciplinary instruction, students can become more involved in their learning and teachers can work toward eliminating discipline lines. Students can become independent, confident individuals who ‘learn how to learn’ and develop lifelong learning skills” (Duerr 2008, p.177). The interdisciplinary approach is a team-taught enhancement of student performance, an integration of methodology and

pedagogy, and a much needed lifelong learning skill. Students who have the skills that interdisciplinary courses provide are so valuable to our future that they are now sought out by colleges and businesses.

3. EXAMPLES FROM EVERY-DAY LIFE

If we take apart the raw theory about this approach and we take a look at the myriad of events and news from our everyday life, we can easily find many examples of this collaborative kind of thinking and work. Here are some examples:

- On of the most recent one is literally from April 4th 2013. The Facebook owner, Mark Zuckerberg, announced company´s new development called Facebook Home. This software is being developed in "a partnership with the handset manufacturer, HTC, which has developed a phone with the software built into it." (Caroll 2013). Even the biggest companies don´t work alone, but in collaboration with others. This way, they offer a new competitive product.
- We all have used at one point Google Translate, and we all know it´s not what it should be. Its inaccuracy and inadequacy in translation is disappointing. But there are several companies working on the main goal in translation: that a machine is able to translate the adequate meaning by doing a lightning fast analysis of information and language codes as the real human brain can do. Not an easy job, indeed. But big achievements have been made. Natural Language Processing (NLP) is a scientific field where many linguists, computer engineers, etc. have joined their efforts. FunGramKB is just a good example of team work among many others (http://carlosgonzalezvergara.weebly.com/fungramkb.html)

The author is convinced that future will be hold by those people who manage to work in team sharing their knowledge from different social and scientific fields in order to create a new product, that´s why he strongly believes the main goal of the teacher today is to educate in this model. But to achieve that it´s necessary also to convince other teachers to do it. Only this way students could feel

4. ONGOING PROJECTS

4.1. On Spring semester 2013 the author initiated a project between Modern Languages, History and Computer Science Departments in AUBG for a new generation tourist guide of Bulgaria in Spanish, and other languages too. This work requires the knowledge, the experience, the IT skills and the correct data provided by a team of researchers from different disciplines. No one of them can reach to a decent result in this aspect by working on their own. This guide will put accent on the Post-communism legacy in the country, starting from monuments through industrial villages and festivals. The author believes that this product will have a strong impact in the Bulgarian cultural scene and can pump "fresh air" to the tourism industry. This is still an ongoing work, so results will be revealed later.

4.2. Another ongoing work of interdisciplinary collaboration is the one proposed to the students from MLL 256 Intermediate Spanish II course, Spring 2013. It started as a routine in-class activity. The majority of the FLL materials available today are based on the task-based approach. All the language skills taught and learned through each chapter, gravitate around one main activity that pretends to put students in a situation closer to the real life. Unfortunately, there is no tool still that can substitute the real communicative environment, that's why teachers should be as creative as possible. At the end of Chapter 6 of Gente 2 (B2) book the author of this project proposed a creation of a video material in Spanish which talks about the AUBG life of people from different nationalities. The idea was polished

with the help of the students. Besides the cross-curricular approach, this activity actually, fits many goals at once: to offer students a real life situation, to make a product which can be used effectively for the needs of the AUBG Focus 2017 campaign. Also, as a strong believer in the interdisciplinary approach, the author considers this video shooting a great opportunity where students can apply the knowledge they acquired from different fields into one new product. This mix of MLL and JMC skills results in a really motivating and useful effort. MLL Spanish skills are being used when preparing the spoken text, or its translation in Spanish. Everything has to be correct in terms of Grammar and Semantic. JMC skills like shooting audio & video, camera position, lights, focus, effects, mastering, etc. are being used also during the whole process. At the moment of this conference the author and his students managed to record the video & audio, to edit the raw material, they did the mastering and added subtitles in the target language. Video can be watched by visiting the following web address:

http://youtu.be/kXDXDwiswuE

The team encountered a problem when synchronizing subtitles in YouTube and currently is working to fix it. In any case, giving the fact that the product is almost completed, one sentence resume can be made in favor of the main theory defended in this paper - it's clear that people only from one discipline couldn´t have done this.

These are the conclusions made till this moment:

- When the director of the project is not sure what exactly the final result should look like that can be disappointing and demotivating for the students.
- Since there is no previous experience with similar activities, all the members of the team have to be prepared to learn new things on every single step, and have to be as flexible as they can, since many times an improvisation at the moment could be necessary. Otherwise, the work gets chaotic and pointless.
- An appropriate distribution of duties is required, a small groups where formed, one in charge of the technical aspect (camera, microphones, etc.), others are organizers who have to meet with several students trying to convince to take part in the video, and one more: for the script.
- Making a closed group in Facebook makes wonders. It´s the most popular social network, people are constantly there and it´s easier to see them giving ideas than when in class.
- The use of social networking leans to much better participation and communication mainly on the target language: an excellent and motivating practice.

4.3. Another example of cross-curricular collaboration is the project started on Spring 2013 called *AUBG music band*. Of course, this example could be applied by every academic center. It consists in joining the knowledge and skills from four Departments, at least. Not only teachers will have the chance to adjust their work to the efforts of their colleagues, but the University band is a great opportunity for the students to practice and master their skills, despite of the musical style chosen by the band members and supported by the University. For example, people from Fine Arts will be in charge of the musical interpretations and the choreography. People from Modern Languages will have to practice with the band members the pronountiation of the lyrics. Students from Business Administration will be managing the band, and last, but not least, the PR and visual media campaign will be led by the JMC Department.

When the band is ready with its repertoire is where the PR campaign, managing and performances start. Now we got a product and if it´s a quality one, it´ll attract new members to the band and to the university.

ISSN 1313-2571, Published at: http://www.scientific-publications.net

The team work continues and we have already closed the circle of collaboration as shown in the diagram below. A legacy inside an academic insitution has been already created.

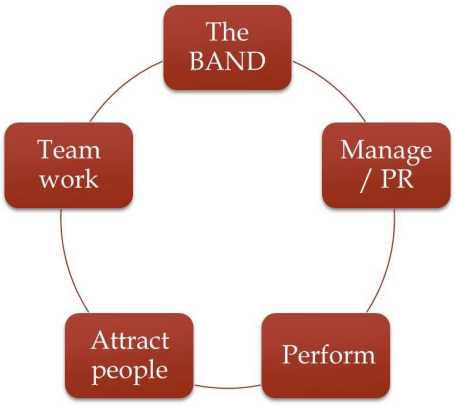

Fig. 1

Such project could give a quick and positive feedback to its members once the band starts giging around. There are a lot of local and international festivals and cultural events that are potential stage for the band. The author has been contacted by colleagues from the University of Santiago de Compostela, who are developing a similar project, so an inspiring inter-university collaboration results also possible. From there, it´s up to the creativity and the responsibility of the teachers implied in this challenged way of collaboration to decide how to make the educational process a modern tool that motivates students to become future leaders.

5. CONCLUSION

The collaboration between different scientific fields is an idea that´s not new, but nowadays is gaining more and more sense. In a globalizing world, where people from different parts communicate in an instance and do business effortlessly, priorities start to move from a local towards a supranational level. This process is one of the biggest challenges for the educational systems worldwide. Most of the times, educators are working hard to become top scientists and investigators in their own field, but they are missing one simple thing: the fact that most of their colleagues are doing the same, so chances to come up with really innovative ideas are greatly reduced. Logically, this is also the model that educators today use to teach their students to. So basically, we are training next generations into the same old, conventional method of productivity, where results are expected to come only from the work in one discipline. The technology and the summary of results achieved in the different areas of the life today are a wonderful basis to start looking further in getting new products. There are many examples from the everyday life of companies and institutions that collaborate in order to create new products and to reach new benefits. Young people easily realize that this is a natural process. It´s only an educator´s job how to prepare students effectivly into this new model of thinking and work. Interdisciplinary collaboration are key words for the future of the planet and is the biggest challenge for the educators today who are stuck to the problems in one field only.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

LIFELONG LEARNING STRATEGIES AT THE UNIVERSITY OF ROSTOCK

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Abstract

The University of Rostock is the oldest university in Northern Europe and has got the reputation to be a modern university combining tradition and innovation. Research, study and education are at a high level. Further education at the University of Rostock is realized through tailor-made study programs which are developed and organized at the Centre for Quality Assurance in Study and Further Education (CQA). At present there are four long-distance master study courses available. Apart from this, an annually updated certificate program with tailor-made modules covering different topics is open for professionals and people interested in further education. In order to make higher education accessible for non-traditional students and broaden the interest of lifelong learning, a project (KOSMOS[51]) has been implemented in 2011. The main focus of this project is the organizational development and, in consequence, the expansion and implementation of lifelong learning strategies at the University of Rostock.

Key words: *lifelong learning – organizational development – further education – non-traditional students – open university – tailor-made study programs – accompanying research*

1. THE UNIVERSITY OF ROSTOCK: TRADITIO ET INNOVATIO

Located in the northeast of Germany, the University of Rostock (www.uni-rostock.de) is the oldest university in Northern Europe. Founded in 1419 with three faculties, the university looks back on a long tradition of education and research. Today, it is structured into nine traditional faculties and one interdisciplinary faculty which represents the four academic profile fields of the University of Rostock. As a result of the intensive cooperation with various well-known institutes in Rostock and surrounding areas and the interdisciplinary work in these complex fields, the University of Rostock is able to develop new, future-oriented perspectives, contents and technologies.[52]

Since the Bologna Process the higher education system in Germany has undergone a tremendous change. The introduction of the Bachelor-Master system at the University of Rostock started already in 2002. Since then, the study programs were gradually restructured and transformed to the Bachelor-Master system. Today, the University of Rostock is totally revised and offers 32 Bachelor and 41 Master programs.[53] Potential students from Germany and other countries can choose between over 100 fields

[51] The project's name KOSMOS is an abbreviation for "Construction and Organization of a Study Program in Open Systems".

[52] cf. University of Rostock, http://www.uni-rostock.de/en/research/, accessed 24/06/2013.

[53] cf. University of Rostock, The University in Figures, Edition 2013.

of study.[54] In 2012, the university attracted approximately 15,100 students who play an important role – economically, culturally and scientifically – for the Hanseatic City of Rostock. The University of Rostock with a work force of 2,697 (of which 290 are professors) in the University and the University Hospital[55] is one of the biggest employers in Rostock, the largest city of Mecklenburg-Western Pomerania with over 200,000 inhabitants.

2. FURTHER EDUCATION AT THE UNIVERSITY OF ROSTOCK

How is further education incorporated into the organizational structure of the university?

Since 1991, the University of Rostock pursues the integration of further education as a part of higher (further) education systematically as it is a relevant issue for the university location and its image nationwide. Ever since, long distance learning courses and further education modules have been conceptualized, organized and marketed at the University of Rostock together with professors, lecturers and local institutions. Therefore, the university established a central institution in 2003 which is responsible for further education: The Centre for Quality Assurance in Study and Further Education (CQA). The CQA is a department of the Rector and is structured into the division »Quality Assurance & Quality Improvement« and the division »Further Education & Distance Studies«. It is the information, advisory and competence centre not only for students, employed people and university lecturers but also for staff members and service providers. The division »Quality Assurance & Quality Improvement's« field of activity includes the development and implementation, maintenance and abandoning of study courses and the quality management in study and education as well as the monitoring of accreditation processes. The stakeholders in this area are mainly lecturers, students, representatives from ministries and economy as well as accreditation and evaluation agencies regional and supra-regional.

The second division »Further Education and Distance Studies« conceptualizes, manages and markets long distance learning courses and further education modules.

It was and still is an important aim for the University of Rostock to guarantee common quality standards for initial and further education. Therefore the two divisions »Quality Assurance & Quality Improvement« and »Further Education and Distance Studies« were put together to form the CQA.

What kinds of further education programs are offered?

The main working fields in further education are master study programs, a certificate program, In-house trainings and a program for University didactic.

In 2012, the master study program »Technical Communication« (M.A.) was added to the already existing master programs »Media & Education« (M.A.), »Environment & Education« (M.A.) and »Environmental Protection« (M.Sc.). The curricula of all four study courses are characterized by interdisciplinary approaches, competence development, participant-oriented didactics and a modularized structure. The standard period of study is four semesters for »Media & Education«, »Environment & Education« and »Environmental Protection« and five semesters for the study program »Technical Documentation«.

[54] ibid.

[55] ibid.

ISSN 1313-2571, Published at: http://www.scientific-publications.net

Next to the four long distance study courses, the CQA also provides a certificate program with short-term, tailor-made courses which is updated every year. Modules from the certificate program address academics or people with at least one year of professional experience and cover topics from Management and Marketing, Communication, Education and Psychology to Technical Communication, Media Studies, Environmental Protection and Environmental Education, Horticultural Therapy and Ambient Assisted Living.

Figure 1: Further Education at the University of Rostock

	WORKSHOPS AND SEMINARS	CERTIFICATE PROGRAM	MASTER PROGRAMS
DURATION	1 to 2 days	3 to 6 months	2 or 2,5 years
QUALIFICATION	Confirmation of participation	Certificate of University of Rostock	Master of Science (M.Sc.), Master of Arts (M.A.)
ADMISSION	None	University degree or professional practice	University degree or professional practice
TOPICS	Marketing Management, Communication, Didactics, Media Education	Marketing, Management, Communication, Didactics, Media Education, Technical Communication, Media & Education, Environment & Education, Environmental Protection, Horticultural Therapy, Ambient Assisted Living	»Technical Communication« (M.A.), »Media & Education« (M.A.), »Environment & Education« (M.A.), »Environmental Protection« (M.Sc.)

Source: University of Rostock, CQA, 2013

Another part of the division »Further Education and Distance Studies« focusses on the university didactics and addresses mainly lecturers of universities, especially young academics but is also open for people who are interested in improving their skills in didactics, rhetoric and communication as well as

soft skills and conflict resolution. Moreover, the CQA also offers business trainings for companies in Mecklenburg-Western Pomerania and supra-national: the company frames a specific topic for their employees and the CQA develops and accomplishes an adequate professional training according to the company's needs and expectations.

The following figure gives an overview of the CQA program.

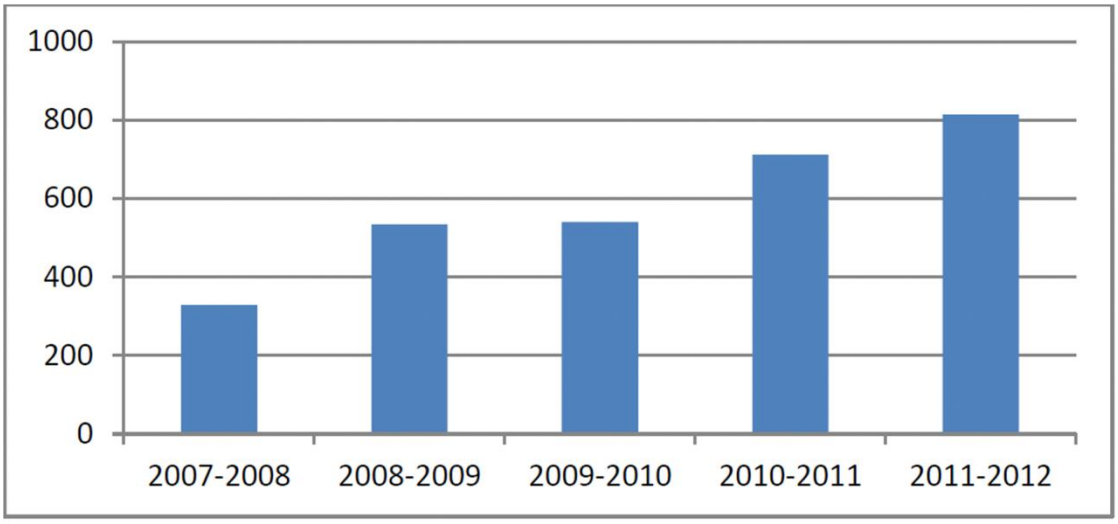
Which teaching and learning forms are suitable for further education programs?

For several years now, the concept of Blended-Learning has been proved suitable for the long distance study programs at the University of Rostock: The combination of self-study, e-learning and seminars allows working students to learn self-directed and independently of time and location. The imparting of knowledge which is closely related to the special distance learning didactics represents a competitive advantage for the University of Rostock in Germany.

Who takes part in further education programs at the University of Rostock?

Participants of further education programs at the University of Rostock are academics, professionals and people who are interested in further education from Germany and German-speaking countries. Looking at the number of participants, a significant increase can be noted over the past years: In the academic year 2007-2008, 278 students and participants took part in the long distance Master programs, certificate and university didactic courses whereas the number has increased to 814 participants in total in the academic year 2011-2012.

Figure 2: Participants (individuals) in Further Education and Distance Studies from 2007-2012



Source: CQA, University of Rostock

What are future perspectives of further education and lifelong learning at the University of Rostock?

Educational policy is undergoing a period of transition: "Academic further education is at the interface of three European educational approaches: the Bologna Process, the concept of lifelong learning and the

European Higher Education qualifications framework."[56] These educational processes and the increasing numbers of participants demand for an adaptation and development of innovative further education programs. Initial education is no longer the only main task of universities: Lifelong learning has become an indispensable matter for higher education institutions. The University of Rostock corresponds to these requirements by developing innovative concepts within the project "KOSMOS – construction and organization of a study program in open systems".

3. LIFELONG LEARNING IN GERMANY

Lifelong learning in higher education has no long tradition in Germany. In fact, "Germany may be an example of a 'delayed' country in relation to the implementation of a lifelong learning policy in higher education."[57] Within the last decade lifelong learning has become a more and more prominent aspect in higher education, due to various reasons:

- The demographic change compounded the regional labour market bottlenecks and skill shortages.
- Social and economic innovation processes softened fixed traditional professions. The aspect of multidisciplinarity became inevitable in everyday work.
- Technical innovations caused the development of new professions.
- Globalization strengthened the need for an intercultural professionalization.

The shortage of skilled work forces has been the driving factor for a restructuring of the educational system with a special interest in further education. Higher education institutions have to recognize their responsibility for developing and implementing lifelong learning concepts.

In order to support the implementation of lifelong learning concepts at higher education institutions the Federal Ministry of Education and Research financed the Federal Government-Länder competition "Advancement through Education: Open Universities". This was an immediate reaction to the growing importance of further education within the German education policy:

There is a general consensus in the education policy discussion regarding the need for and the significance of continuing academic education. The existing and increasing challenges of demographic change, of technological development and international competition, the growing need for highly qualified personnel as well as the avoidance of social conflicts demand that people living in Germany should have the highest possible educational attainments. And these attainments must be constantly

[56] Ada Pellert & Eva Cendon, *Einführungsartikel Lehre und Weiterbildung*, http://wissenschaftsmanagement-online.de/converis/state_of_the_art_inhalt/78, accessed 24/06/2013.

[57] Andrä Wolter (2012): 'Germany: From individual talent to institutional permeability: changing policies for non-traditional access routes in German higher education', in: Maria Stowey & Hans G. Schuetze (eds.) *Global Perspectives on Higher Education and Lifelong Learners*, Oxon, New York, pp. 43-44.

updated and adapted to new tasks and changing framework conditions in industry, technology and law. [58]

The competition "Advancement through Education: Open Universities" was designed to address "[f]urther functions of continuing academic education [such as] career advancement and securing one's position in the employment system [and therefore] plays a role in promoting the establishment and development of continuing academic education for new target groups at institutions of higher education" [59].

3.1 On the way to lifelong learning strategies at the University of Rostock

The University of Rostock, namely the CQA, has more than 20 years of experience in developing and organizing further education programs and was therefore predestinated to participate in the competition. The project "KOSMOS – construction and organization of a study program in open systems" was one of 26 selected projects to be funded by the Federal Ministry of Education and Research.

What is the aim of the project?

The aim of the project is to implement a concept of lifelong learning in all areas of academic life and therefore to pave the way for a culture of lifelong learning at the University of Rostock. This aim can only be reached if the university structure will be completely changed. Lifelong learning means to develop innovative study programs addressing traditional and non-traditional students and respecting their individual educational background. Especially non-traditional students are an important target group in terms of lifelong learning. Furthermore, they also "form a key group […] in continuing higher education programmes"[60].

But it has not only been the organization itself which should undergo a deep change: rules and regulations on the broader scale – legal conditions and financial issues – should be transformed as well in order to support lifelong learning.[61]

Who are non-traditional students?

There is no common definition for non-traditional students. In this context non-traditional students are defined as "new groups of students who, for a complex range of social, economic and cultural reasons were traditionally excluded from or under-represented in higher education"[62]. Furthermore, according to the life-cycle discourse, non-traditional students are referred to be "older or adult students with a vocational training and work experience background, or other students with unconventional educational biographies"[63].

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[58] Federal Ministry of Education and Research, *Continuing Academic Education*, http://www.bmbf.de/en/349.php, accessed 20/06/2013.

[59] ibid.

[60] Wolter, p. 43.

[61] Although there has not been the space to discuss these fields they should not be neglected. On the contrary, lifelong learning must have a better framework.

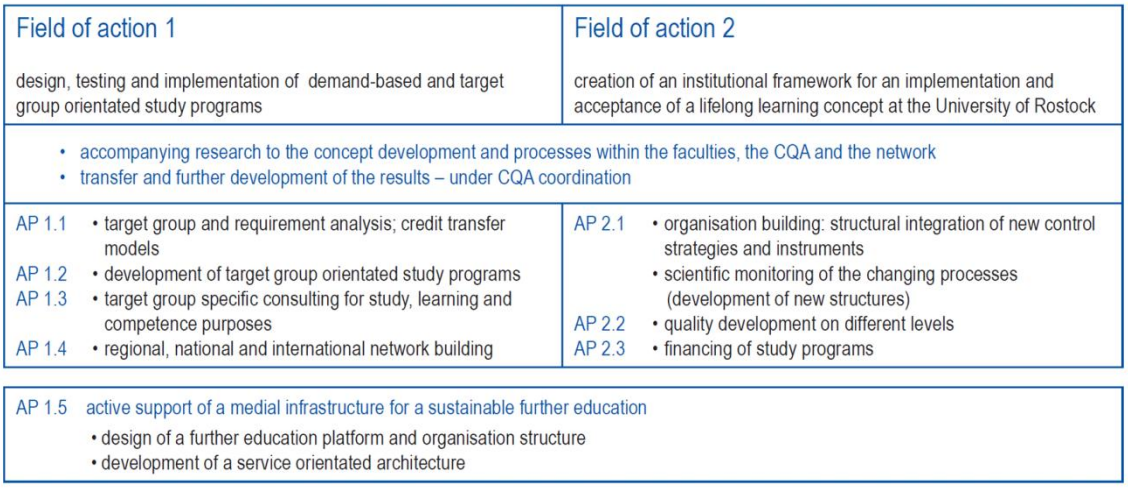
[62] Hans G. Schuetze & Maria Slowey (2002), 'Participation and exclusion: A comparative analysis of non-traditional students and lifelong learners in higher education', in: *Higher Education*, Vol. 44, Issue 3-4, p. 312.

[63] ibid., p. 313.

How is the project KOSMOS structured?

KOSMOS is designed to carry out the continuing implementation of lifelong learning on two levels. On the first level tailor-made study programs will be developed for traditional and non-traditional students. Innovative study models will enable students to start a study program during all stages of life. These programs will be designed to account for prior professional know how and to offer various connection possibilities to former trainings and professions. The central aspect on the second level is the creation of an institutional framework for an implementation and acceptance of the lifelong learning concept. This aspect has been a major field of concern within the German higher education policy as Wolter points out: "Regrettably, adopting lifelong learning structures, opening up for non-traditional students and promoting continuing education have often been eyed suspiciously as detrimental to the achievement of academic excellence."[64] Questions of recognition of qualifications, skills and capabilities will be discussed in order to secure a sustainable effect on other study programs offered at the University of Rostock. The following figure illustrates the two fields of action of the project.

Figure 3: Fields of action of the project KOSMOS



Source: University of Rostock, CQA, 2011

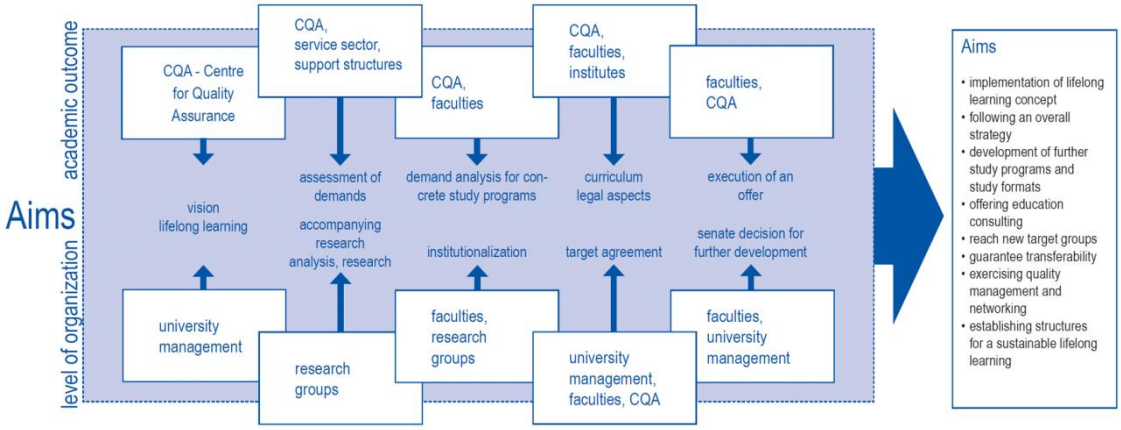
The project coordinator CQA works together with faculties and the service sector to guarantee a close link between demand, research and economy. Within the two fields of action eight work packages (AP) are responsible for different tasks, matching to their focus in research. The faculty of Economic and Social Sciences hosts the research on financing models, target group and requirement analysis, organization building as well as network building. Target group specific consulting is dealt with in the faculty of humanities. Furthermore, the development of target group orientated study programs is part of their work. The German Institute for Adult Education (DIE) is responsible for securing the quality development on all levels.

[64] Wolter p. 47.

ISSN 1313-2571, Published at: http://www.scientific-publications.net

The following figure gives an overview of the work processes within the project.

Figure 4: Linking of organisation building and offer development



Source: University of Rostock, CQA, 2011

3.2 Good practice example: the certificate course »Garden & Health – Horticultural Therapy«

The certificate course »Garden & Health – Horticultural Therapy« was the first tailor-made study program to be developed for traditional and non-traditional students within the KOSMOS project. This course started in April 2013 with 25 participants. The topic Horticultural Therapy was chosen as it matched thematically the "green" long distance Master programs »Environment and Education« and »Environmental Protection«. Moreover, a great demand on the service sector was detected by the accompanying research.

What were the pre-conditions for implementing the certificate course?

The German state of Mecklenburg-Western Pomerania defines itself as a state of health. Numerous rehabilitation clinics are situated especially at the coasts of the Baltic Sea. In order to set themselves apart from other clinics they need to specialize. Offering horticultural therapy might be one way to cope with competition. The demographic change with its aging of society provides a solid basis of possible clients for Horticultural Therapy. The demand on the service sector leads to a demand for educational opportunities but these are rare in Germany. Moreover, there has not been a single institution offering educational programs on the topic of horticultural therapy in the northern part of Germany.

Who is the target audience?

According to the research results three main professional sectors were detected to provide the target audience: health and care sector, social professions and the so called "green professions" (gardeners, landscape designers). The composition of participants is heterogeneous regarding their age, professional experiences and educational background. In order to support the knowledge exchange within the group the participants were chosen purposely by a team of university professors.

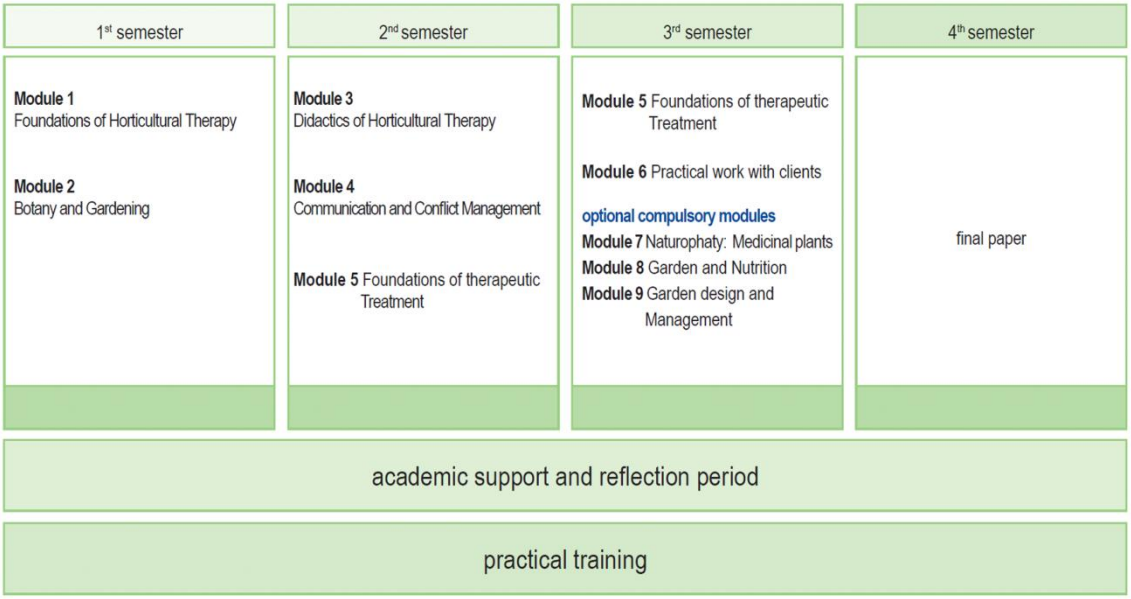
The curriculum of the certificate course »Garden & Health – Horticultural Therapy« was developed in cooperation with the faculties and with the help of external experts. At a very early stage members of

the target groups were invited to take an active role in the development process. This was seen as an important step in constructing a demand-oriented and tailor-made study program. Therefore, a workshop with potential participants from the suitable professional sectors was organized. It turned out that a high practical relevance in combination with profound knowledge transfer was seen as essential for the study program. All participants insisted on a close link between their professional life and the academic learning.

How is the course structured?

The course is structured as a long distance offer for employed people. It consists of four semesters with each semester being subdivided into modules, except for the last which is reserved for writing the final paper. A practical training is one component of the course with an amount of 90 hours, whereby the sequences can be determined individually. All participants get academic support and take part in a reflection process during the course. Especially the reflection period is part of the accompanying research, to investigate the handling of an academic learning situation having different educational backgrounds.

Figure 5: Module structure of the certificate course »Garden & Health – Horticultural Therapy«



Source: University of Rostock, CQA, 2012

Which teaching and learning forms are used?

The outline of the course is adapted to the needs of working participants which is reflected by the choice of teaching and learning forms.

Blended learning is used in each module combining self-learning, online seminars and periods of attendance. In addition, academic support and the reflection period serve to supervise the learning outcome and help the participants to analyze their learning ability and success.

4. CHALLENGES AND CHANCES OF IMPLEMENTING LIFELONG LEARNING AT THE UNIVERSITY OF ROSTOCK

The given overview of the CQA's structure and the above mentioned example of a further education course clearly show that the University of Rostock already has a convincing further education program which could be a solid basis for transferring lifelong learning strategies.

What will the CQA do within the next five years to support the implementation of lifelong learning strategies?

The CQA will focus on a continuing development of the further education program: this includes the development of new study formats which aim at tailor-made courses developed with national and international partners and stakeholders. A successful further education program in the upcoming years will provide the ground for meeting the requirements of lifelong learners. This results in a partial opening of courses, in offering special courses, in combining traditional pathways with newly designed courses, in acknowledging experiences made at former stages in life. Consequently, two developments have been noticed: a commencing implementation of lifelong learning aspects driven by practical engagement and the reconstruction of the organization itself through governance and revision of several processes in university life.

There are several challenges which have to be faced within the next years:

1. *acceptance within university:* The acceptance of further education and lifelong learning within the university has to be strengthened.
2. *heterogeneous audience:* Dealing with lifelong learners in further education programs means working with a heterogeneous group. This requires an adequate didactic which has to be updated according to a changing learning environment.
3. *political framework*: According to rules and regulations on state level as well as country level some changes should be forced: Financing of educational offers after initial education which is free of charge; supportive structures for professors and lectures participating in further education.

Despite the above mentioned challenges implementing lifelong learning strategies opens up new chances for the University of Rostock.

1. *improvement of study and teaching through experienced lifelong learners:* Critical questions and impulses made by lifelong learners do not only lead to new impulses and contacts but also allow a direct transfer of new research findings into professional practice.
2. *effects on professors and lecturers:* The interdisciplinarity of seminars is enriched by the different professional backgrounds of the participants which is perceived as an advantage by the lecturers. Working with experienced adult learners supports the professional and personal development of professors and lecturers.
3. *close relation to eminent educational demands:* Lifelong learners communicate educational demands resulting from their professional background to the university. Thus, innovative market-oriented further education programs can be developed.

In order to implement a lifelong learning strategy at the University of Rostock several pre-conditions must be fulfilled.

1. Lifelong learning strategies can only be realized by the university management and must therefore be implemented top-down.
2. The strategy of lifelong learning must be rooted in the university's structure to guarantee a general commitment.
3. Suitable educational programs have to be developed taking into account the participants' professional experiences and individual biography.
4. Universal systems regarding academic recognition and the transparency of qualifications have to be established to guarantee comparability.

The University of Rostock is conscious of the complex requirements in the field of lifelong learning. Nevertheless, first steps were already taken towards an acceptance and implementation of a genuine lifelong learning concept. Agreeing with the German author Hermann Hesse saying "To achieve the impossible, one must persist in attempting the impossible", the University of Rostock aims to be a university of lifelong learning by the year 2020.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

DISCOURSE INTONATION VS GRAMMATICAL INTONATION: PEDAGOGICAL IMPLICATIONS ENGLISH LANGUAGE CLASSROOM

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Abstract

In this essay, I compare and contrast grammatical model of intonation with discourse intonation model. I have selected the former model first because grammar and intonation historically have been considered close and inter-related (Coupler_Kohlen: 1986) and are still popular in countries like Pakistan where teaching of pronunciation is in an early transitional phase. Secondly, grammatical model being one of the earliest approaches to intonation seems to be the base for other approaches to intonation. Finally, ELT textbooks still tend to teach intonation from grammatical dimension, especially in Pakistani language classroom that is already heavily influenced with grammar in other aspects. Keeping in view a good number of discussions on various approaches to intonation and the limited scope of this paper, this paper confines the discussion only to grammatical and discourse models of intonation. This paper discusses major aspects of both approaches, followed by comparative discussion on their linguistic validity and pedagogical advantages as well as disadvantages.

Key words: *grammatical intonation, discourse intonation, English language teaching*

1. INTRODUCTION

Intonation is one of the most challenging aspects of spoken language because listening to a foreign language and tracing down the rise and fall of voice is a complex and Chapman (2007) observes that even native speakers find it demanding. Moreover, it is, sometimes, difficult to identify the correct tone of speech even after repeated listening and listeners in language classroom may not reach an agreed answer. It is also controversial in the sense that over the last few decades linguists have presented various theories of learning and teaching intonation. However, the debate is unending for all the functions of intonations are closely related to each other and it is hard to find a clear demarcation between the approaches. Roach (2000) observes that "what seems to be common to accentuate grammatical and discourse functions is the indication, by means of intonation, of the relationship between some linguistic element and the context in which it occurs" (p. 184). Tench (1996) gives six major functions of intonation or in other words, six approaches to study intonation. Brown (1997), however, views the functions of intonation in three major categories: grammatical functions, attitudinal functions and discourse functions. Roach (2000) adds accentual functions to the list.

Apart from the debates on these functions, all of them have their own validity in one way or the other. Intonation is important for a number of reasons: it potentially can compensate listeners' grammatical misunderstanding of speech (Rost, 1990; Roach, 2000); it helps speakers as well as listeners to determine the management of information such as 'what comes first, what follows, what precedes' (Tench, 1996: 17) and also signals various stages in conversation such as 'to quit talking, to respond in a particular

fashion, or to pay particular attention to a piece of highlighted information' (Celce-Mercia 1996, p. 200); it helps listeners to indicate turn taking (Dalton & Seidlhofer, 1994); listeners can guess speaker's attitude and mood through intonation focusing on not what they say but the way they say it (Tench 1996, Brown 1997, Roach 2000); as it informs 'whether the speaker is asking, telling, ordering etc' (Tench 1996, p. 19). All of these functions, though, have been categorised separately and have been discussed in past studied in isolation, focusing on one or two dimensions of intonation functions might not provide insight into the information on speech and speaker because there is over lap between many functions (Roach 2000). In order to avoid ambiguity resulted from this overlap, I first discuss below the features of both grammatical and discourse models of intonation before highlighting their relevance with reference to pedagogical issues.

2. GRAMMATICAL MODEL OF INTONATION

Grammatical model of intonation refers to indicating the syntactic structures of speech through intonation. Roach (2000) finds it customary to illustrate the grammatical function by using different types of intonation. Grammatical approach claims to identifying rise and fall with the occurring of clause structure. Various generalizations have been suggested to recognise the intonation pattern following syntactic structures in speech. For example, Thompson 1995, Cauldwell & Hewings 1996 & Roach 2000 discuss that question-intonation in ELT books suggests the rule that *yes/no* questions, generally, end with a rising tone whereas *wh* questions end with a falling tone:

1. | Shall we go ↑ tomorrow |
2. | Where shall we go ↓tomorrow |[65] (Cauldwell & Hewings 1996, p. 331)

However, all of them agree that these patterns are not final and deviation from these patterns is possible in different circumstances. For example, *wh* questions can have rising tone while requesting for repetition of some information. Regarding the use of question tags, change in tone is possible in both ways, depending on the attitude of the speaker (Tench 1996, Roach 2000):

3. | They are coming on ↓ Tuesday | ↓aren't they |
4. | They are coming on ↓Tuesday | ↑aren't they | (Roach 2000, p. 197)

The rising tone in (3) reflects a lesser degree of certainty as compared to (4) which is more certain. Roach points out that there is overlap between attitudinal and grammatical functions of intonation.

Based on the speech analysis of newsreaders' speech, Brown (1997) indicates certain tendencies in the use of intonation. She claims that speakers put the subject phrase of sentence into a tone group, and put the predicate phrase of sentence into one tone group unless the phrase is particularly long (p. 92):

5. | The ↑ forecasters | say that much of ↑ England and ↑ Wales will be cloudy and ↓wet |
6. | The ↑ building employers | say that and the ↑ union | are still ↓ meeting |

She says that the most general and important function of tone group division must be seen to be the marking off of coherent syntactic structures which the listeners must process as unit. Tonality, division in spoken discourse in separate intonation units, corresponds to a clause and this can be taken as a basic

[65] | = tone unit boundary; ↑ = a rising tone beginning on the underlined syllable (either a rise or a rise-fall); ↓= falling tone beginning on the underline syllable; underlined syllables are tonic.

pattern (Halliday 1970). Tench (1996), Brown (1997) and Roach (2000) also believe that tone-unit boundary placement can also indicate grammatical structure to the listeners where they can understand through the speaker's placement of intonation:

7. | The conservatives who like the proposals | are ↓ pleased |

8. | The conservatives | who like the proposals | are ↓ pleased | (Roach 2000, p. 196)

The division of tone groups distinguishes the meaning between (7) and (8): the former suggests some conservatives who are pleased while the latter suggests that all of them are pleased. However, interpretation of this type of speech also depends on the shared knowledge of context. Brown (1997) also points out that tonic syllables mark the last lexical word of the tone group (p. 95). Tench (1996) calls this tendency neutral tonicity to have the tonic syllable within the last lexical item in the intonation unit. However he specifies that the last item "must be the lexical item, not a grammatical item, not even the last word" (p. 57):

9. | A new plan | to boost British cheeses | is announced |[66]

10. | The building employers | and the union | are still meeting | (Brown 1997, p. 5)

In contrast to neutral tonicity, Tench (1996) also talks about marked tonicity which is mostly used to convey contrasts:

11. | It's not what I think | but what you think |

12. | That's what you're exporting | and we're importing | (Tench 1996, p. 62)

Bowler& Parminster (1992 in Cauldwell & Hewings 1994, p. 328) observe that in lists the intonation always goes down on the last item (to show that the list is finished), and up on all the items that come before the last (to show that there is more to come).

13. | I bought a ↑ shirt | a ↑ tie | and some ↓ trousers | (Bowler& Parminster 1992, p. 30)

Another grammatical significance of intonation is the choice of tonic syllables (Roach 2000). By shifting tonic stress from one group, or word, to the other a statement can be turned into a question. Roach believes that such a shift of tone is quite acceptable in some dialects of English. He gives example of a variety of American English which may ask a question like this:

14. (Why do you want to buy it now?) | The ↑ price is going up | (Roach 2000, p. 196)

But he argues that British speakers would more likely to ask the question like this:

15. (Why do you want to buy it now?) | 'Is[67] the ↑ price is going up | | (Roach 2000, p. 197)

Tonicity is the syllable made prominent by a combination of pitch, volume and length within an intonation unit (Tench 1996). Tench claims that a change in tonicity, or in the tonic, also changes the focus of information while the tonality may remain constant. For example look at the following sentences with the shift of tonicity in an intonation unit where tonality remains constant. For example:

16. | This book is ↓mine |

17. | This book is ↓mine |

[66] Underlined words indicate the tonic syllables.

[67] ' = stressed word

18. ⎪This book <u>is</u> ↓mine⎪

19. ⎪This book is ↑<u>mine</u>⎪

In the above example, (16) refers to speaker's focus on informing that this particular book is his/hers, not the others. In (17) shift of the tonic to the book shows that the speaker expresses the possession of the book only, and showing no concern with other items possibly present there. In (18) the speaker might be referring to the fact that the book might have belonged to someone else in past but now it is his/hers. Finally the statement (19) expresses some sort of clarification that this book is his/hers, not anyone else's. Some other interpretations still might be possible. Looking at the rise and fall of tone in the above example, it can be observed that all the statements most probably have a falling tone except the last one which has a rising tone. The speaker uses the same tonality but shifts tonic stress by raising his/her pitch, stress and volume. In (19), there is a greater possibility that the speaker would increase the length of the sound 'mine'. This confirms Tench's (1996) claim that within a given intonation unit, tonic shift might vary to correspond to the speaker's focus.

Regarding the use of adjunct in a clause, Tench (1996) observes that shift of intonation from the adjunct to the other lexical item also changes the message. For example:

20. ⎪ They didn't come <u>ha</u>ppily ⎪(i.e. not in a happy mood)

21. ⎪ They didn't <u>come</u> happily ⎪ (i.e. 'I am happy to say that …') (Tench 1996, p. 71)

In written mode, the difference can be conveyed by putting a comma after *come* in (21) but in speech, only intonation can distinguish the difference in meaning.

Halliday (1970) suggests five simple and two compound tones and claims that falling contour means certainty with regards to yes or no and it is, therefore, neutral tone for declarative clauses, and for interrogative clauses of the WH-type. He concludes that "falling pitch means polarity known and rising pitch means polarity unknown give clue to the meaning of the tones which change direction" (p. 23). He also claims that tone 5, rising-falling tone, makes statements that are rather assertive, implying 'how could you doubt that, or not know?' Tone 3, he believes is a "sort of compromise between a fall and a rise, expressing not so much uncertainty as some form of dependence or incompleteness" (p. 24). He also gives sets of clauses which can be related through various combinations of tones such as "two independent facts, tones 1 & 1; one fact incomplete without the other, tones 3 & 1; one fact circumstantial to the other fact, tones 4 & 1, or 1 & 4" (p. 30).

So far I have reviewed some major grammatical functions of intonation which can be summarised as under:

- *Yes/no* questions end with rising tone whereas *wh* questions end with a falling tone. Question tags in sentences can vary according to the attitude and knowledge of speaker.
- Tonality corresponds to a clause: subject phrase and predicate phrase occur in separate tone groups; tone-unit boundary is marked through intonation to indicate grammatical structure
- Tonic syllables mark the last lexical word of the tone group.
- In lists the intonation always goes down on the last item.
- A statement can be changed into sentence by shifting tonic stress.
- Change in tonicity changes the focus of information as well.
- Shift of intonation from the adjunct to the other lexical item changes the message.

- Certain tones have certain functions and can be used in various combinations to coincide various clause sequences.

I will discuss and comment on these points in detail in the later part of this paper.

3. DISCOURSE FUNCTIONS OF INTONATION

Discourse intonation, developed by Brazil (1925 – 1995) at the University of Birmingham, in collaboration with Sinclair and Coulthard, introduces four major features to locate the functions of intonation in speech. Contrary to the classical theory of intonation, discourse intonation rejects the possibility of normal relationship between tone groups and clauses. Brazil (1997) suggests that the tone group in speech are not grammatically motivated rather required by moment-by-moment needs of conveying message appropriately in the speaker's preferred intentions. Discourse intonation introduces three major features to locate speaker's preferred meaning of speech.

3.1. The tone unit

Tone unit in discourse intonation is building blocks of speech which scaffolds the comprehension of whole message (Chapman 2007). Unlike grammatical model of intonation which looks at tone groups and clauses occurring coincidently, discourse intonation model focuses on various intonation features within the tone unit. Discourse intonation model locates a prominently toned item, lexical or grammatical, in each tone group of speech. Brazil (1980, p. 39) mentions that making any word prominent, whether lexical or not, constitutes a meaningful choice. He introduced the concept of tonic segment which begins with the first prominent syllable and ends with the last prominent syllable:

Proclitic segment	*Tonic segment*	*Enclitic segment*
he was	GOING to GO	
that's a	VERY TALL STO	ry
it was A	WED	nesday

The Tone Unit (Brazil 1980, p. 40)

Prominent words are called tonic syllables or the nuclear syllables and prominence is achieved by raising or lowering the pitch level on the tonic syllable. Brazil points out that tonic syllable reflects the speaker's judgement that the word in question contains matter which, at this time and in this context, will be informing. Look at the following example:

22. ⎪the queen OF heart ⎪

23. Which heart did you play?

⎪the QUEEN of heart ⎪

24. Which queen did you play?

⎪the queen of HEART ⎪ (Coulthard 1992, p. 40)

We can see in (23) and (24) that tonic syllable depends upon the context of interaction. Shift of tone from queen to heart is determined by the focus of information required by the listener. According to discourse intonation, it is the knowledge of the context that is realised on the spot and speakers make decision on the intonation pattern immediately.

3.2. Referring and proclaiming tones

Chapman (2007) claims that information conveyed in the tone units of speech can serve a speaker's purpose either to convey something that the listener is already of aware, or the speaker may be introducing some new information. In Brazil (1980; 1997) we find five tones which speakers use to indicate their intonational moods:

i. The Fall
ii. The Fall-Rise
iii. The Rise-Fall
iv. The Rise
v. The Level

These tones are realised in speech through the varying pitch at the tonic syllable. The speaker's selection of a tone is determined by the fact what speaker knows about the listener's expectations as well as given and new information in speech. Neutral proclaiming tones (P tones) are falling tones which contain new information whereas neutral referring tones (R tones) are Fall-Rise which contain shared information. However, discourse intonation does consider some attitudinal factors in speech which are realised through 'plus tones'. Brazil (1980) exemplifies proclaiming and referring tone:

25. | *r* he'll be ˅ TWENTY in *p* ↓ AUGUST |[68]
26. | *p* he'll be ↓ TWENTY in *r* ˅ AUGUST | (Brazil 1980, p. 16)

In (25) the listener is told of when a mutual acquaintance will have his twentieth birthday, whereas in (26) the date is already known and the listener is told how old the acquaintance will be in August. Coulthard (1992) notices that the referring tones allow speakers to call on shared knowledge and opinions, which have not so far been verbalised in the conversation.

The concept in plus tones is same as that of shared or new information, but the pattern is modified where the plus proclaiming tone has a Rise-Fall pattern, and the plus referring tone is a Rise. Speakers tend to use plus tones when they are expressing some sort of dominance. Brazil (1980) observes that by choosing the P + tones the speaker signals that s/he is simultaneously adding information to the common ground but also to his own store of knowledge (p. 56). It reflects feelings of surprise, horror etc. On the other hand R + tones indicate the speaker's dominance in speech. Compare the following examples from Brazil:

27. | *p* in the ↓ CUPboard | (I assume you don't have never known)
28. | *r* in the ˅ CUPboard | (Where it always is)
29. | *r* + in the ↑ CUPboard | (Why don't you ever remember?)

[68] v = Fall-Rise

30. | *p* + in the ^ CUPboard | (I'm as surprised as you are…) [69] (Brazil 1980, p. 57)

In the above examples, (27) and (28) reflect new and shared information respectively, (29) shows speaker's dominance by using a rise rising tone that contains attitudinal expressions. On the other hand (30) contains expression of surprise through a plus proclaiming tone. Speakers tend to use level tone when the focus is on language, not on communication. Chapman (2007) notes that it happens either when the speaker is thinking hard about what to say or when the language being used does not serve a communicative purpose but is formulaic.

3.3. High and low key

Key is variation in pitch at the first prominent syllable. It is signal of starting, or ending the speech. While defining High and low key, Chapman (2007) states that the communicative function of high key in a tone unit is to signal that the utterance is different from what the listener may expect to hear, "and it typically co-occurs with the change of topic" (Brazil 1980, p. 65). On the other hand, the use of low key indicates that the utterance is just what the speaker is expecting to hear. Coulthard (1992) refers to three levels of key choice:

- High Key contrastive
- Mid Key additive
- Low Key equative

He exemplifies the three levels by the following example:

31. | he GAMbled | and LOST |
32. | he CAMbled | and LOST |
33. | he GAMbled | and LOST |

He explains that high key choice in (31) indicates an interaction-bound interaction between 'gamble' and 'lost'; perhaps the 'he' usually wins when gambles. The second mid key choice simply conveys the message whereas the final low key choice indicates the expected outcome of gambling i.e. losing. It is noteworthy, however, that high key can also be used to highlight and low key to parenthesise information. To sum up, discourse intonation model is realised through five intonational moods and three variations in the key positions. These features are determined moment by moment, according to the situation and the context of shared and new information between the speaker and the listener.

4. DISCUSSIONS ON BOTH MODELS

A review of the two models shows that grammatical approach views syntax and language of the message as primary concern whereas discourse approach perceives intonation with major concern over interaction between the speaker and listener. Grammatical approach suggests that intonation is guided by the syntactic structure while discourse approach believes that intonation guides listeners and speakers about the information in process based on given and new information of the context. Brazil (1980) believes that restricting one tone unit per clause, tonic not falling on the last lexical item are meaningful

[69] ^ = Rise-Fall

by contrast only whereas discourse model views intonation as "the carrier of context-specific, speaker-oriented meanings, which cross-cut the semantics of language system gratuitous" (p. 46).

The first major contrast between the two models is that grammatical model believes that tonality corresponds to a clause: subject phrase and predicate phrase occur in separate tone groups; tone-unit boundary is marked through intonation to indicate grammatical structure. In order to elaborate the contrast in approach with discourse intonation, I would again quote Roach:

34. | The conservatives who like the proposals | are ↓ pleased |

35. | The conservatives | who like the proposals | are ↓ pleased | (Roach 2000, p. 196)

In these examples, the focus is on the information. Speaker does not have much liberty to go beyond from these two versions and is left with only two possible versions of intonation, ending with a falling tone. In (34) the message is that all the conservatives like the proposals and are pleased while (35) denotes that some conservatives like the proposals and they are pleased. However, we find a different picture if we analyse the same example from discourse approach. Discourse model claims that tonality reflects the speaker's judgement at this time and in this context:

(Who are pleased?)

36. |↓The conservatives who like the proposals | are ^{V} pleased |

This statement reflects that listeners know someone is pleased but do not know who they are. The speaker uses proclaiming tone to give new information with referring tone at the shared information.

How are conservatives, who like the proposal, feeling?)

37. | ^{V} The conservatives who like the proposals | are ↓ pleased |

In this case, the situation is reverse where the speaker informs potential listeners about the feelings of already known conservatives and their liking the proposal is shared between the speaker and the listeners.

(Are all the conservatives pleased?)

38. | ^{V} The conservatives | who like the proposals | are ↓ pleased |

In this sentence the intonation pattern suggests that the speaker is informing on which conservatives are pleased i.e. only those who like the proposals. The high key at the second tonic group indicates the emphasis on the nomination of selected pleased conservatives.

(How are conservatives feeling?)

39. | ^{V} The conservatives | who like the proposals | are $^{\wedge}$ pleased |

Use of low key is used to parenthesise the information of liking the proposals. If we add proclaiming plus tone to the last tonic group, it will suggests that the speaker is surprised at the conservatives who s/he believes cannot be pleased with the proposal, or with anything on the earth.

These examples, and many other possibilities, denote that discourse intonation is more flexible and with wider variety of expressions to communicate the more exact message. Intonation patterns are at the discretion of speakers' judgment who decide on the spot based on their contextual knowledge, and not on the basis of syntactic structures. Discourse intonation varies its intonation pattern from clause to clause and is more flexible in shaping and reshaping its tone groups according to the context.

Another aspect of grammatical approach is that it claims that change in tonicity, or the tonic, also changes the focus of information while the tonality may remain constant (Tench 1996). On the other hand discourse intonation also suggests that the speaker's selection of a tone is determined by the fact what the speaker knows about the listener's expectations as well as given and new information in speech. Both of these viewpoints are similar but with a minor difference. In order to elaborate, I would refer to previously given example (16 – 19):

| This book is ↓mine | (not that one)

| This book is ↓mine | (but pen is yours)

| This book is ↓mine | (still my belonging)

| This book is ↑mine | (not yours)

From grammatical angle, speaker has limited choice available within the given framework of grammatical model. The question is whether the speaker would come across only these four situations in life? On the contrary discourse intonation, again, provides more varied as well as realistic choices to cope with a number of real life situations. Apart from the above four possibilities discourse intonation can offer the followings as well:

| *p* + this book is ^ mine | (A precious book – how lucky I am to have this book)

| *r* + this book is ↑ mine | (Why don't/can't you understand…)

| This book is MINE | (and you can't have it)

| This book is mine | (but of course you can borrow it).

| This book is MINE | (everybody should know this moment onward)

Discourse intonation gives more weight to contextual signals as well as interaction not only between the speaker and listeners but also their individual interaction with the circumstances. It also denotes that discourse intonation has potential of incorporating the features of other approaches when and where necessary. Similarly, grammatical model claims that intonation on question tags can vary according to the attitude and knowledge of speaker. Discourse intonation serves this purpose through using plus tones and does not confine speakers to using a set pattern of intonation rather gives them liberty to manipulate it according to the necessity.

Referring to Halliday's (1970) five simple and two compound tones, Brazil (1980) says that Halliday's tone 3 usually means r + tone with termination lower than key but Halliday takes no account of the relative pitch of tone 3. Further to Halliday's reference to neutral tone to assertive statements and *wh* questions, Brazil responds that it is not necessary to argue about whether the two types of questions are more usually associated with rising or falling tone because proclaiming and referring tones are applicable independently to both types. However, since questions are more likely to be asked by dominant speakers, r + tone is more common.

Grammatical model asserts that tonic syllable must be a lexical item, not grammatical whereas in discourse model of intonation tonic syllable can be lexical or grammatical. Brazil (1980) believes that making any word prominent, whether lexical or not, constitutes a meaningful choice. It is logical because when speakers want to communicate, their concern is always which item (lexical or grammatical) is important to convey the message, and not the selection of lexical items to communicate in their preferred way. The concept of tonic segment, instead of tone group is more convincing in the sense that it does not restrict the speakers to oscillate between lexical and grammatical items, rather to focus on the making

the focal item prominent within the tonic segment. Brazil (1980, pp. 38–50) maintains that tone unit boundaries are not of great importance. Intonation is carried by the tone segment, which is unitary by nature, and whose boundaries are perfectly clear. During an utterance, speaker's natural attention is on prominent syllables of utterance in tone segment, rather than distinguishing lexical or grammatical items.

5. PEDAGOGIC IMPLICATIONS OF BOTH APPROACHES

Teaching of grammatical model of intonation is not new in language classroom as compared to the teaching of discourse model. Use of grammatical model might have been more popular because of its convenience of clear rules and neat divisions of tone groups. As happens in teaching of deductive grammar, teacher and learners feel psychologically satisfied with a sense of achievement, and grammatical model is not an exception. Explanation of intonation rules under this model seem to suggest that learners would acquire it in spoken language as well. However, when learners use intonation practically in spoken language, the confusing phase begins and learners seem to be lost in the maize of clauses and tone groups, if they have been taught intonation through grammar model and they are consciously focusing on their intonation pattern. Distinction among clauses, lexical and grammatical items, tone groups and tonic words becomes not only difficult but also boring. Speaking a foreign language with full attention to such details, in addition to searching for vocabulary and structures, is stressful and too demanding. For these reasons intonation is considered one of the most difficult areas in spoken language.

Mostly ELT textbooks imply that the intonation is the direct result of the syntax but Brazil (1980) believes that it is possible to imagine contexts in which intonation patterns are reversed. I tend to agree with him when he logically proposes that the learner must be able to assign intonation to an utterance, and must be able to discover why what he produces is inappropriately or possibly ill-formed (pp. 124). This goal cannot be achieved if intonation is taught within grammatical or attitudinal framework. Haycraft (1971) exemplify this through a dialogue which proves that teaching intonation on attitudinal lines creates an artificial expression, away from real life. Even after four decades, the same fact exists in a number ELT textbooks in various parts of the world. Brazil (1980) critics such practice by pointing out that teaching certain attitudes through intonation do not necessarily communicate right message.

Likewise, teaching intonation by following grammatical model is not much effective because learners try to derive meaning from the relationship of structural and tonic units, instead of information structure that is based on situational knowledge. In grammatical model learners are forced to move in a pre-determined way, instead of concluding from the situation. This discussion, however, should not suggest that grammatical model is not useful at all. As I mentioned earlier, one big advantage of grammatical model is that it give neatly distinguished and defined rules for basic understanding. Therefore, beginning with grammatical model might be a good strategy as teachers and learners may feel safer with known and traceable facts, instead of interpreting and inferring from the context to communicate. However, the rules which the grammatical model suggests have limited validity. They do not correspond to the wide variety of linguistic needs of everyday life. They focus on the structure that exists within the framework of syntax and the grammatical structures. Therefore, this model does not work in a number of cases (see Thompson 1995; Cauldwell & Hewings 1996). The principles of the grammatical model of intonation are logical and easier to teach and learn as compared to that of the discourse model. However, teachers need to be cautious in explaining these principles of intonation in order learners may not take them for universal rules of intonation.

Intonation taught artificially seems to be challenging because intonation is determined by the message and in classroom activities speakers are so conscious of intonation – rise and fall, syllable stress and pitch range – that they cannot focus on message to use intonation appropriately. However, Brazil (1980) takes this aspect of classroom setting as an advantage, and suggests that repetitions can have an effect on intonation either by citing utterances, or by repeating the utterances from *p* to *r* +. He gives a specimen outline for teaching of intonation as means of communication, and giving signals to listeners of the topic under discussion. He describes nine stages for teaching intonation and anticipates that many learners will not go beyond the seventh stage of "recognition of termination" (p. 133). Brazil (1994) also gives a complete course of intonation called Pronunciation for Advanced Learner of English (PALE). PALE focuses on linguistic terminology and transcription system because Brazil believes that the "best way of pinning down the otherwise elusive nature of intonation and so avoiding the vagueness that can so easily undermine one's confidence when working with it" (1994, p. 5). It encourages autonomous learning by giving learners opportunity to discover the rules themselves before they are explained by the teacher.

As I mentioned earlier, discourse intonation, despite having fascinating and convincing features, is not very simple for classroom implementation. In the discourse model, Brazil (1980) confesses that it is not easy to distinguish the boundaries of tonic segments from proclitic and enclitic segments. Moreover, identifying falling and rising tones, distinction between high and low key, recognising prominent syllables are not as neat and simple as they look on paper. Even native speakers sometimes are not able to recognise these variations in language (Chapman 2007). He reports that such failure in language classroom is frustrating for both students and teachers when right tone cannot be identified even after getting the correct answer. However, these complications should not reduce the significance of the discourse model rather should encourage the linguists to cope with the challenge of teaching intonation more effectively.

Another problem in teaching the discourse model of intonation is distinguishing between given and new information. Dalton and Seidlhofer (1994) point out that the discourse model of intonation contains certain features which are delicately distinctive, and might be demanding on learners' part. It is not easy for learners to judge new and given information while conversing in a foreign language. Jenkins (2004) also notes that particularly problematic area in teaching of discourse intonation is "the assessment of new or given status and corresponding assignment of tone" (p. 3). I have already mentioned above in this section that using foreign language with a focus on structure, vocabulary, grammar and accuracy as well as other phonological features, working on discourse model is equally demanding as it is on other models of intonation.

6. CONCLUSION

This paper discussed the major characteristics of grammatical and discourse model of intonation and made a comparative discussion on both. In my discussion I have maintained that the grammatical model is useful for basic understanding of the concepts of intonation. However it does not fit into a variety of situation in real life. Though all the models of intonation have their own validity in their own way, the discourse model of intonation is more convincing because of its wider scope, more flexibility and being more communicative in function. On one hand, it is not advisable to concentrate on any previous models in isolation which are not comprehensive to encompass all varieties and possibilities of real life communication, solely relying on the discourse model might not be a wise strategy as well. Some major problems related to this model, discussed above, cannot be ignored because they potentially can, and do, cause frustration among learners when identifying tones, pitch, high and low key becomes difficult, rather sometimes irritating because of repetitions of utterances. Teachers need to consider a balanced

ISSN 1313-2571, Published at: http://www.scientific-publications.net

approach by not abandoning the previous approaches and smoothly as well as wisely incorporating new techniques and strategies of introducing discourse model of intonation.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

EXPERIMENTAL TRIAL OF STUDENT CREATIVITY FORMING TECHNIQUES DURING AESTHETICS LESSONS

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Abstract

Nowadays the notion of creativity is connected to both human individual progress and social development. The results of creativity are innovative and provide a contribution to social development: education, culture, industries and many other practical spheres of life. Creative activity and stereotype-free thinking are considered to be the basis of social and economic innovation development.

Key words: *artistic creativity, visual art and music curriculum, teacher education.*

INTRODUCTION

The concept of creativity development has become significant to the human being in all age categories; it includes solving creativity problems in various life situations and spheres of activity. Creative activity is s mentioned in the report of the International Commission of the UNESCO among the pre-requisites of education and sustainable social development of the 21st century: the social value is personality with free will-power and capable of fully realize/ express him/ herself (UNESCO, 1998); likewise, a document of the European Commission mentions creativity in the context of life-long learning, creativity and innovation (European Commission, 2010).

The European Commission work programme "Lifelong learning for knowledge, creativity and innovation - Education and Training 2010 work programme", which is based on research, also confirms the importance of arts facilitation. It determines the availability of cultural and arts studies and democratic character: to facilitate access to arts education on all levels and age categories, to facilitate artistic awareness and artistic activity. It is especially stressed that it is important to include permanent arts courses as a part of lifelong learning process in school and vocational arts education, as well as lifelong learning education programs, in order to facilitate personal creativity in all age categories (European Parliament, 24.03.2009. Resolution *on arts studies in EU*).

It points out to the necessity of developing such a visual arts education process which allows students to get engaged irrespective of their artistic talents; whereby students' creativity is facilitated, which in its turn facilitates the flexible perception of professional challenges and the versatile possibilities of personal life among the students, future teachers.

Research problem is the facilitation of students', future teachers', creativity in the studies of visual arts at a higher education institution, thereby discovering the personal activity approach studying visual arts as an opportunity which is significant for students on a personal level.

The contemporary significance is determined by:

- A contradiction between the existing deliberate need of the individual in the society and at the same time the current students' normative process of visual arts education;

Goal of the research: to develop a procedural model of obtaining arts and carry out empirical tests of its impact and effectiveness in the studies of students' creativity facilitation.

Type of research

Considering the subjectivity of research topic, an interpretive approach was chosen, which can be characterized by the significance assigned to the understanding of human subjective experience and individual activity in a concrete environment and which is well suited for procedural structural research of activity (Mayring, 2001). To test the hypotheses proposed by the dissertation quantitative qualitative research was carried out (Kroplijs, Raščevska, 2005). The research makes use of retrospective/ex post facto design.

The methods:

Data collection methods

- Survey of students-future teachers' of a higher education institution;
- Direct observation and situational analysis of students-future teachers' creative activity in arts;
- Analysis of students' creative work according to the criteria established;
- Content analysis of teacher's and students' cooperation reflections;

Data processing and analysis methods

- statistical analysis of quantitative data: Descript Statistic, One-Sample Kolmogorov-Smirnov Test, Wilcoxon Signed Ranks Test, Paired Samples Statistics, Friedman Test, Crosstabulation (SPSS 19.0 environment);
- content analysis of qualitative data.

Research basis

The research has been carried out at Riga Teacher training and Educational management Academy. It engaged twelve hundred (1200) students studying full- and part-time, acquiring the programs of professional pedagogy: primary school teacher with the right to teach one subject at lower secondary school and primary school teacher.

MATERIALS AND METHODS

Procedural approach to modeling pedagogic activity in education, in accordance with theories on personal action and personally significant activity (Vygotsky, 1978; Леонтьев, 1998), learning is a reciprocal enrichment of experience in studies, purposeful and motivated activity, the productivity of which is determined by students' individual abilities, personal significance and meaning. Students' purposeful activities are based in such components of the concept of learning as emotions, motives, interest and needs. In cooperation with the teacher the student in a creatively organized pedagogic environment get actualized experience and developed motivation (Vygotsky, 1978; Леонтьев, 1998). According to the theoretical propositions of the concept of personal activity a *model of pedagogic cooperation in arts education* is developed (see Picture 1).

Students' creativity facilitating content of arts education, according to the principles of systemic constructivist pedagogy the educational content includes professional, individual and contextual spheres, which reveals the wholeness of the concepts of arts, personality and life in artistic creative

activity (Леонтьев, 1998; Helds, 2006). The holistic character of creative activity includes the unity of objective and subjective components, in which the subjective components are connected with student's needs, motives, freedom and personally significant activity (Леонтьев, 1998, Выготский, 1991). In the aspect of creativity development the student feels freedom, autonomy, accepts his/her individuality as a value, confidence in own abilities, in this way his/her self-acceptance is developed.

Students' creativity facilitating pedagogic activity in arts education, in accordance with the humanistic approach, emotional blockage hinders the individual from expressing creativity (Maslow, 1973), because emotions are more positive, because particular activity is more important for the student (Леонтьев, 1998). According to the process approach in creativity development (Runco, 2009; Csikszentmihalyi, 2002) discoveries and experiments, games, development of original ideas (Starko, 2010), the sensation of *flow* during inspiration and creative process (Csiksentmihalyi, 2002) facilitates students' joy in the process. According to the basic propositions of the theories of activity and human development in activity (Леонтьев, 1998) learning is a reciprocal enrichment in horizontal and vertical cooperation in the acquisition of visual arts education in the pedagogic process (see Table 2); purposeful motivated activity the productivity of which is determined by the individual qualities, personal significance and meaning (Выготский, 1991; Леонтьев, 1998). According to the propositions of constructivist approach regarding the principles of educational organization student's learning is an active creative activity and co-responsibility in the learning process - students' self-regulation, self-esteem, autonomy, self-expression and self-development (Helds, 2006); the role of the teacher keeps changing – from the dominant of the study process it becomes into the *organizer, supporter, motivator an observer* of students' learning (Helds, 2006).

Personal activity approach to the acquisition of arts education, in accordance with personal activity approach, which is oriented towards learning and interaction, (Выготский, 1991; Леонтьев, 1998) arts education process at a higher education institution facilitating students' creativity is defined as purposefully organized, personally significant, ongoing student-teacher interaction, during which students' creative self-expression is facilitated which is directed at the facilitation of students' creativity (Kalēja-Gasparoviča, 2012). According to the constructivism approach the teacher ensures a systematic creative dialogue in cooperation with students in the pedagogic process of acquisition of arts education facilitating their purposefulness, self-image, freedom and flexibility (see Table 3).

Students' creativity facilitation in arts education, empiric test. In order to test the hypotheses, the following objectives have been set:

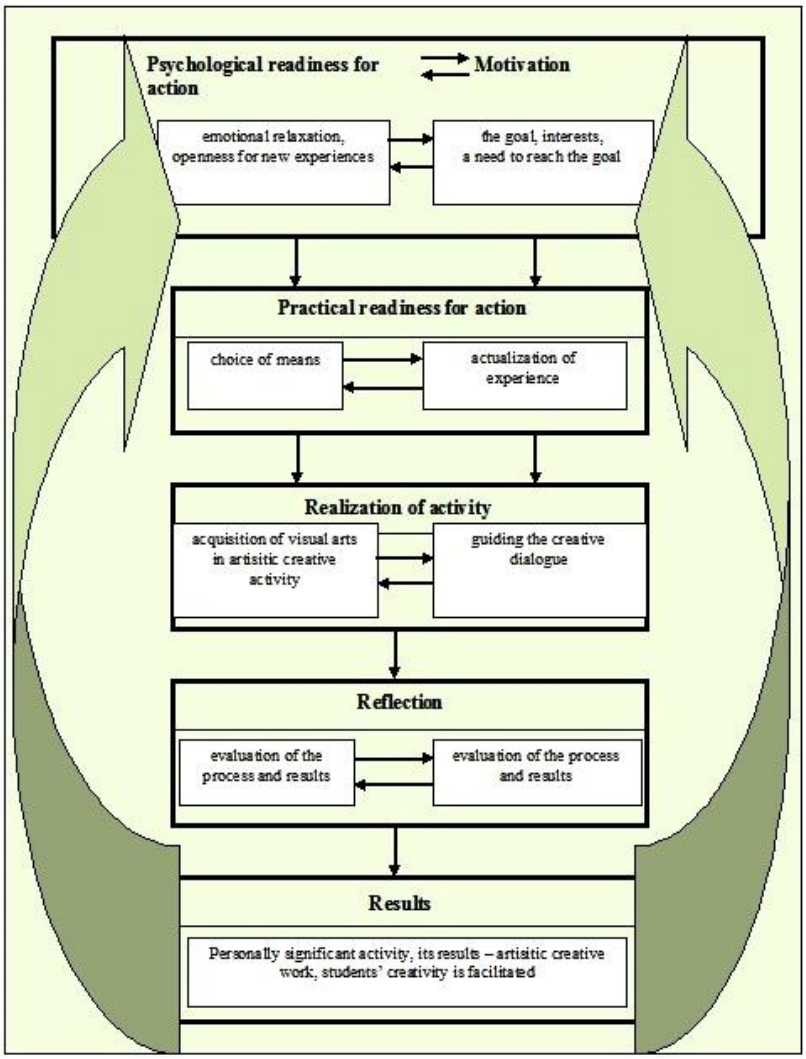
1. To test, how in the pedagogic process of arts education the teacher ensures a systematic creative dialogue in a horizontal and vertical cooperation, facilitating students' sense of purpose, self-image, freedom and flexibility;

2. To explore, how arts educational content acquired on basis of goal-oriented perception influence students' creative activities and discover positive changes in students' creativity;

3. To analyze students' reflections about the process of arts education as a value, in the process of artistic creative self-expression.

As the objective of the empiric research was to research the changes in creativity in real-time study process in accordance to creativity criteria developed and defined in the theoretical part of the research, a concurrent mixed methods design was developed for the research, which foresees an equal collection of quantitative and qualitative data (Huber, 2004).

ISSN 1313-2571, Published at: http://www.scientific-publications.net



Picture 1. **Model of pedagogic activity in arts education**

Table 2

Teachers' and students' cooperatation in arts education

The stages of arts education organization	**The indicator o effectiveness of arts education acquisition**	**Cooperation in pedagogic activity**	
		Teacher's activity	**Students' activity**
Psychological preparedness	Emotional liberation, openness for a new experience, interest in the upcoming activity, a need to achieve the goal	Liberate and develop emotions, explain the task, set criteria for action	Positive experience of the expected artistic creative activity, self-acceptance, setting a subjective goal
Practical preparedness	Previously acquired experience, change of stereotypes, views	Offer to the student a choice of objective components of action – topic, content, creative process, visual and technical means, art meaning, Support in the enrichment of new creative experiences	Acquisition of planning skills, analysis of experience, choice of artistic and technical means
Realization of cooperation	Acquisition of visual arts in holistic artistic creative activity	Personal experience, creative approach to the situation, use of stimuli, pedagogic guidance. Guidance of creative dialogue	Students' self-expression. Learning oneself, expressing one's emotions, feelings, experiences, discover new individual abilities, interests, needs, values. Enriching individual creative experience, facilitating changes of creativity in the student's personality – purposefulness, self-image, freedom, flexibility
Reflection and results	Self-acceptance, awareness of the creative potential, motivation of further artistic action	Organization of individual and dialogic reflection.	Artistic creative work assessment of the creative process and its practical result, self-assessment

Table 3

Teacher's functions in arts education

Function	Action
Facilitator and organizer of activity	• Urge students to take personally significant action, plan creative cooperation • Organize artistic creative activity
Coordinator, supporter	• Facilitate student's acquisition of visual arts in holistic artistic creative activity • Facilitate students' artistic creative activity • Coordinate and ensure creative dialogue in vertical and horizontal cooperation • Student-student; student-teacher
Supervisor, motivator	• Guide students' reflection in order to analyze artistic creative process and results • Facilitate students' artistic creative activity
Evaluator	• Help to formulate students' creative development • Organize students' reflection • Assess the work done, including the self-assessment

The strategy of the research is to compare, how students' creativity change in the process of visual arts education, combining quantitative and qualitative research methods (Kroplijs, Račevska, 2004). The external validity of the research is ensured by the fact that it was implemented in real-time study process in the frames of a study program, observation during the study course, assessment of artistic creative work and discussion about the assessment as well as the use of content analysis for the analysis of students' reflections on creative self-expression development – for data analysis. The inner validity of the research is ensured by quantitative data obtained in a survey about the significance of visual arts in students' perspective and statistical test of changes in students' creativity in real-time study process in accordance with the creativity criteria.

Research selection development. The research was carried out at Riga Teacher Training and Educational Management Academy and it involved twelve hundred (1200) students of full- and part-time studying to obtain professional pedagogy programs – primary school teacher with the right to teach one subject at lower secondary school and primary school teacher. As the strategy of the dissertation is to compare, how students' creativity changes in the process of arts education in real-time study course classes, a selection of the sample was not made. All the students taking part in the study course of *Artistic creative self-expression in art*.

Analysis of questionnaire results. The analysis of difference results between students' attitude towards art and its meaning in the beginning and in the end of classes in the first year of the research, demonstrated (Wilcoxon's test) that significant change ($p < 0,05$), if specifically significant ones are not stressed, very significant ($p= 0,001$) and highly significant ($p= 0,000$) change, show in 32 out 43

measurements. As a result it has been concluded that after the class significance is attached to **art as environment surrounding the human being.** There was no significant change in the comprehension of art as self-expression; averagely significant indicators were M=3,26 (before class) and M=3,29 (after class). As a result it has been concluded that after the class **painting as assessment of individual development opportunity** was changed significantly – M=1,75 and M=3,08 (after classes).

A tendency is observed: an increased understanding among students of visual art usefulness in various spheres of profession activity and life. Questionnaire (after class) results allow to state that the change in students' attitude towards visual art demonstrated the limitation and opportunity tendencies of the pedagogic process of visual art education acquisition. The observed tendency demonstrates that personally significant activity in the acquisition of visual art education facilitates self-awareness, world cognition, motivation, which characterizes such students' creativity components as openness for new experiences and interest in new experiences. It has been concluded: the more personally significant is students' activity in the acquisition of art education, the more distinct is the facilitation of students' purposefulness, self-image, freedom and flexibility. It has provided an opportunity to clarify the developed art education acquisition model in students' creativity facilitation cycle and make necessary changes to the methodic of classes. As a result of the questionnaire the tendencies of students' creativity facilitation in art education have been stated.

Analysis of observation and situation, demonstrates quantitative data analysis and its correspondence to students; *creativity criteria: purposefulness, self-image, freedom, flexibility/ multiplicity of ideas* – to the analysis of change dynamics (progressive or regressive). The quantitative data drawn together for the test of hypotheses and their statistical analysis is supplemented by qualitative descriptions of students' statements and their content, non-verbal expressions (mimic, gestures, poses), behavior (quick – slow engagement into the conversation, does not engage in to conversation).

Performing the comparison of observation results according to Friedman's test dependent selection results, which were obtained in several research stages, significant differences were observed ($p<0,05$), as well as a high average range at the end of the class in all research years in all criteria and indicators. A common result tendency of the research has been noticed; students' artistic creativity positive change dynamics, which confirms the hypothesis proposed in the dissertation. The results ranging from 1-1,5 points can be defined as low; from 1,6-2,5 – as medium; 2,6-3 – as high (see Table 4).

Table 5 demonstrates, how different respondents' attitude towards creativity in art education in the beginning and end of the course. These differences clarified the theoretically justified model of art education acquisition and enabled the improvement the structure of pedagogic cooperation in art education. It can be concluded that previously acquired experience contradicts with creativity facilitation. In the analysis of students' statements and their content, for example, in order to describe the situation, one criterion position was chosen, which characterizes students' creativity.

Table 4

Observation criteria and arithmetic average indicator of students' artistic creativity (M)

Criterion, indicator/research year, Measurement stage (s –beginning; b-end)	**1.**		**2.**		**3.**		**4.**	
	s	b	s	b	s	b	s	b
Purposefulness: Openness for New experience	1,61	1,82	1,66	1,98	1,65	1,99	1,67	1,92
Interest in new experience	1,64	1,86	1,66	2,06	1,68	2,06	1,69	1,98
Satisfaction with process activity and result	1,61	1,97	1,67	2,18	1,64	2,17	1,70	2,10
Self-image: Accepting oneself asa value	1,49	2,07	1,58	2,27	1,52	2,28	1,64	2,36
Self-esteem	2,06	2,46	2,08	2,50	2,08	2,50	2,06	2,55
Self-actualization	1,40	2,02	1,41	2,32	1,44	2,32	1,42	2,28
Freedom: Independence	1,43	2,15	1,44	2,36	1,46	2,39	1,46	2,29
Responsibility for the consequences of idea realization	1,43	2,14	1,47	2,38	1,46	2,37	1,47	2,23
Choice about work process and means	1,46	2,11	1,48	2,38	1,50	2,38	1,49	2,02
Variety of ideas: flexibility of thoughts and ideas	1,36	2,22	1,38	2,45	1,39	2,46	1,44	2,01
Originality in thinking and behavior	1,36	2,26	1,38	2,43	1,40	2,44	1,42	2,00
Idea novelty	1,36	2,26	1,38	2,44	1,39	2,44	1,44	2,01

Table 5

Students' statements and their content in relation to creativity in a course of art education

Criteria Indicators	***Respondents in the beginning of the study course***	***Respondents in the end of the study course***
Flexibility *Flexibility of thoughts and ideas*	„At school we were made to draw only free choice drawings!" "On musical we freely express the thoughts and we tell about associations which are caused in us by a concrete piece of music"	„I learned to act more creatively and not to be afraid to think differently. I felt that I could be myself and act freely. The rules of teacher's game helped me to be brave and gie in to work"; „I repeated about the color, it got a lot clearer about the texture, the space. I discovered how compositions are created and ideas are generated. I understood that you need to trust the first impulse. I discovered that previously I thought simplistic, there is no identical or correct thing in nature, as if it would be measured. Nothing is as it seems at first sight. I discovered that looking and seeing is nit the same. Each new action revealed something new to me and I felt that I discovered myself, saw differently and thought differently". "I at all didn't assume that is capable to compose melodies on the set text. Game on the synthesizer opened new opportunities for creativity- I learned to select styles to songs."
Originality in thinking and behavior	„Would it be correct?"; „I am kinda afraid to start what that it does not go as it should ?"; „So how should it be in visual art? How should it be? " "It is important not to be afraid to experiment in music - everything that we create is our own experience which is unique and it is important for everyone"	"I discovered that changing the visual language you can make one composition in so many variations!"; „I discovered how to blend colors, how to technically apply them in different ways I didn't know back then about the shades. It turned out that you can paint without the blue skies and green grass. I discovered that applying the paint you need not paint, but apply it with different strength. Time flew so fast, but I wanted to do more. You can even work with plasticine! Thank you for the opportunity of having a good time". „ Really we could create such remarkable musical composition? And as far as there correspond to music these peculiar and original movements! "
Idea novelty	„I drew cards for friends because they come out	„Nothing was shown as it looks. Only the rules of the game. Everyone had interesting pieces. I even liked the plasticine, I hated it before. Wire installations were interesting. It turned

	nice"; „I like to draw Nature-scapes and give them to others." „As it is difficult to think out something new in music but as it is interesting... I very much like to change texts of familiar songs – new options and as though new songs turn out...."	out that I can create a human figure. I understood that you need to yield to the process ad you shouldn't think if it is going to work or not. It will be useful in life, because you need not get stressed while doing stuff"; „There are no right or wrong compositions or colors, there are different stories which they are telling. Surrendered to the rules of the game and the work came out like a real piece of art! Away with the uniform, boring! No white and black, but colorfully white. Away with stereotypes. I see and feel now. How versatile are the ways of finding ideas! What I learned in this course will stay with me forever – both in work and life". „ The best on musical lessons is that we in groups create in common. Everyone has ideas, and as a result there is something new, unlike on one of these ideas. Exactly so we had a composition "Justice"

Assessing the dynamic of observation results, comparing the results of the research per year, it has been concluded that systematic creative dialogue in horizontal and vertical cooperation becomes a personally significant activity in the acquisition of visual art education; it liberates emotional experience; students on basis of purposeful perception independently acquire art education content and artistic creative self-expression process as a value.

Analysis of students' creative work is carried out in accordance with systemic constructivist art education content criteria: *expressiveness*, *creativity* and *significance*, which is expressed in students' creative work (art, music, composition, movements). *Expressiveness*: varied application of visual means of expression, improved and familiar art language (visual elements and their significance); skilful technical solution, choice of materials and techniques in accordance with the idea. *Creativeness*: unusualness, uniqueness, oneness, originality (viewpoint, choice of means of expression and combination, technical solution). Contrast – stereotype, pattern, copy. Significance: implementation of art functions, according to the objective (cognition, depiction, transformation and/or assessment of author's personality or the outer world).

Work assessment includes the aspect of the process of creativity development, because students are involved in discussions, implementing creative dialogue in horizontal and vertical cooperation, implementing systemic constructivist content of visual art education – creation of artistic creative work (professional sphere – art), students' self-expression (individual sphere – personality), contexts (interaction – life). Data obtained as a result of qualitative data analysis provide additional emotional information, but this research section does not deliberate on that specifically. In compliance with the criteria art work is assessed according to objective criteria which, from the viewpoint of the teacher, are an objectively subjective assessment. Implementing the statistical comparison of assessment results of creative work using Wilcoxon Signed Ranks Test Paired Samples Statistics, significant differences ($p<0,05$) and **increase of positive change** in all research years in all criteria have been discovered. According to level qualities the indicators of the arithmetical average (M) has been explained in the following way: 1,0 – 1,5: low level; 1,6 – 2,5: medium level; 2,6 – 3,0: high level.

Table 6

Students' creative work analyses results

Criteria/research g.g. (N=300 per year)	1.		2.		3.		4.	
	g.v	g.b	g.v	g.b	g.v	g.b	g.v	g.b
Average indicator of the criterion (M)								
Expressiveness	1,55	1,59	1,71	1,94	1,64	1,94	1,61	1,86
Creativity	1,63	1,80	1,71	1,99	1,71	1,99	1,64	1,92
Significance	1,75	2,02	1,76	1,99	1,67	1,97	1,87	2,03
Positive change of criteria results (indicators of positive range - pr) indicators of significant change - p								
Expressiveness	pr=49 p=0,00		pr=77 p=0,00		pr=91 p=0,00		pr=77 p=0,00	
Creativity	pr=59 p=0,00		pr=88 p=0,00		pr=84 p=0,00		pr=88 p=0,00	
Significance	pr=82 p=0,00		pr=86 p=0,00		pr=92 p=0,00		pr=60 p=0,00	

M – average arithmetical indicator (Mean); g. – research year; v – measurement during classes, b – measurement after classes, p – significance <0,05 (indicator of significant change).

It has been concluded that in all three criteria the medium level dominates, a little higher than medium level range is the *significance* criterion. In general a tendency is observed, that the assessment results of creative work are lower than the results of the observation, which showed the development of creativity in the study process.

Content analysis of teacher's and student's cooperation reflections, is to investigate students' experience in artistic creative self-expression. 90 content elements were distinguished, showing students' creativity change in visual art education, the course of „*Artistic creative self-expression in art*". Content elements were classified per category. The categories were developed based on students' creativity criteria: purposefulness, self-image, freedom, variety of ideas, distinguishing sub-categories in accordance to criteria indicators and classifying the content elements in compliance with the characteristics of a high or low level of creativity. Table 7 demonstrates the results intentionally assigned to one criterion position, which distinctly characterizes students' creativity. From the point of view of research problem it is crucially important for students to experience the process of art in artistic creative self-expression as a value.

Assessing the frequency of categories, a tendency is observed: students' reflections expressed most often touching upon the achievements in visual art education demonstrate a high level creativity, which confirms the author's model of visual art education acquisition and the usefulness of the methods.

Purposefulness category demonstrates an often higher level of creativity; in the category of idea variety – the subcategories of flexibility of thoughts and ideas and originality in thinking and behavior; in the category of self-image – the subcategories of self-esteem and acceptance of oneself as a value. A high level creativity was demonstrated less often in the category of self-image, the sub-category of self-actualization; the category of freedom, subcategories of responsibility for the consequences of the implementation and choice of work process and means; in the category of idea variety, sub-category of idea novelty. It shoes the possible further directions of improvement for art education model and methods.

Table 7

Criterion *Variety of ideas*

Flexibility of thoughts and ideas				
High level		**Medium level**	**Low level**	
Ability to freely generate ideas and implement them practically	84	4	No ability to freely generate ideas and implement them practically	2
Ability to easily adapt to the new situation	86	3	No ability to easily adapt to the new situation	1
Characterized by a variety of ideas	74	9	Not characterized by a variety of ideas	7
Originality in thinking and behavior				
High level		**Medium level**	**Low level**	
flow	85	4	No flow	1
dexterity	82	6	No dexterity	2
Emotional liberation	89	1	No emotional liberation	0
attractiveness, humor	82	7	No attractiveness, humor	1
Idea novelty				
High level		**Medium level**	**Low level**	
A new view on the application of things in life and usefulness	79	9	No new view on the application of things in life and usefulness	2

CONCLUSIONS

In the frames of the research was conducted confirming the possibilities for the solution of students' creativity as a pedagogic problem in teachers' professional education, as well as developing and testing a procedural model for the facilitation of students-future teachers; creativity in art education acquisition.

1. It has been concluded by the research that students' creativity positively changes in such art education process, which creates conditions for a creative dialogue in horizontal and vertical cooperation, as a result of which students' purposefulness, self-image, freedom and flexibility of thinking and behavior increases.
2. Ensuring the criteria of purposeful visual art education acquisition in pedagogic activity, students eel truly free and unlimited in art education.
3. It has been concluded that students' creativity is implemented in artistic creative process through art education process developing students' perception.

4. Liberating students' artistic creative self-expression in art education, their self-awareness is enabled; their motivation for artistic creativity is improved.
5. Ensuring the possibility for students to verbally reflect on the experience obtained in creative activity and its subjective meaning, they realize the creative process as study achievement and value.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

THE LITERAL HISTORICAL SENSE (PROPER AND FIGURATIVE) IN THE HOLY SCRIPTURE

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Abstract

The biblical sense contains the truth that the Spirit of God has sent us by hagiographers through language. In the Holy Scripture we can identify two types of senses: one literal-historical, directly expressed through words, and one mediated, real-typical. An expressing only in the properly sense is very rare, as the author tries often to express meanings beyond the words. But a specific mode of expressing can give to a literal statements more beauty, power, dynamics and plasticity. The figuratively or tropic sense is met when the author expresses something indirectly, using related expressions by sense. The Church testifies through its patristic and liturgical treasure the universality and the unity of literal historical sense, the reality that the Scripture is revealed in its integrity, is the Word of God.

Keywords: *Holy Scripture, biblical sense, proper sense, figurative sense, hyperbole, metaphor, symbol, comparison*

1. THE CONCEPT OF SENSE

1.1 CONCEPTUAL DELIMITATIONS

Through verbal (uttered or written word), paraverbal (intonation, intensity of the voice, rhythm etc.) and nonverbal (sign, mimic, posture etc.) language, man generates and transmits messages, his own thoughts, feelings, intentions and meanings.

From an etymological point of view, the term *sense* (meaning) derives from the Latin *sensus, -us*, which means "perception", "feeling", "understanding", "reason", "idea", "meaning", "signification".

In the field of Biblical hermeneutics, "sense" or "meaning" is defined as "the elaborated product of the spirit, expressed through uttered or written words with the help of which it is communicated" (Scriban, 1922, p. 14) or as „the author's thinking or intention transmitted by the uttered or written word" (Basarab, 1997, p. 24).

The words are, in the first place, objective elements, for everybody to understand and use and secondly, they serve as means of communicating the meaning from one person to another, being directly connected with the subject which produces and expresses them. In the context of this premise, one must stress upon the terminological delimitation between *meaning* and *signification.*

The meaning is the result of the author's elaborated thinking process. Signification, on the other hand, is always fixed in the common language according to the general rules of the language. The dictionary is the one which presents various significations of the words, independent from any person who would enunciate.

For example, the Hebrew verb !n:v' (*shanan*) has the significance „to sharpen" something (Koehler, 1953, p. 998), especially swords and arrows (Deut. 32:41; Is. 5:28; Ps. 45:6; 120:4; Prov. 25:18). It is

used mainly in Qal, at Piel and Hitpoel. However, in Piel the verb has an intensive meaning: to educate early, perseveringly and repeatedly. In this form, the verb is met only once, in Deut. 6:7, in the well-known text on the duty of educating the children:

^ÜT.b.viB. ~B'_ T'Þr>B;dIw> ^yn<ëb'l. ~T'än>N:viw>

`^m<)Wqb.W ^ßB.k.v'b.W* %r<D<êb; ^åT.k.l,b.W '^t,'ybeB.

„Thou shall *instill* (*sow*, in the authorized translation) them to your sons and speak about them when you are in your home, when are on the road, when you go to sleep, and when you wake up" (personal translation).

In this text, the meaning of the verb is "to stimulate", "to sharpen", and "to instill". The *Jerusalem Bible* translates it, otherwise very correctly, by "to repeat". God instructs man by the formal education at home and also by the informal education, through the everyday life. The theological meaning of this verb in Piel is that God's messages penetrates deeply the soul and mind of the one who listens to it, it "sharpens" his senses, makes him shine and be ready to throw away all the sins from his soul.

Used only by Saint Paul (Rom. 8, 15; Gal. 4, 5; Eph. 1, 5), the term *ui`oqesi,a* includes the idea of the blessing which the Incarnation of the Son of God offers us (John 17, 23), not due to our merit (Eph. 1, 7), but through grace. Knowing very well the Roman law regarding adoptions, according to which an adopted person got all the privileges of a natural son, saint Paul transfers this lay signification in the theological field, showing that the divine grace makes us "sons of God" in our own right (Rom. 8, 15-23, in parallel with I Pt. 1, 14) and, according to Saint John's conviction, sons of the Church (II John 4).

The meaning differs from the usual signification and is revealed only after reading the sentence and following the logical thread of the ideas expressed. The significance of a word is often multiple, whereas the meaning takes only one significance, excluding all other possible ones. The meaning is precise and objective.

In the hermeneutical process, of interpreting the revealed text, one needs to know first the significance of the words in order to discover the meaning of a word or a text.

1.2 THE BIBLICAL SENSE AND ITS CATEGORIES

The biblical sense contains the truth which the Holy Spirit transmitted to us, men, through hagiographers by the means of language.

In the text of the Holy Scripture we can identify two kinds of senses: a literal-historical one, expressed directly through words and another one, intermediated, real-typical.

The literal-historical sense is not specific to the Holy Scripture but rather met in any literary text. However, the real-typical sense can be found only in the Scripture.

Two examples, from the Old and the New Testament, are presented in order to delimitate the types of biblical meaning:

Ezekiel 9, 4: "Go through the midst of the city, through the midst of Jerusalem, and set the sign of the cross (the letter tau which in the Greek alphabet had the shape of a cross) upon the foreheads of the men that sigh and that cry for all the abominations that be done in the midst thereof".

Revelation 7, 2-4: „*And I saw another angel ascending from the east, having the seal of the living God: and he cried with a loud voice to the four angels, to whom it was given to hurt the earth and the sea, Saying, Hurt not the earth, neither the sea, nor the trees, till we have sealed the servants of our God in*

their foreheads. And I heard the number of them which were sealed: and there were sealed an hundred and forty and four thousands of all the tribes of the children of Israel".

It is obvious that the Holy Scripture in the Romanian translation introduces in Ezekiel 9.4 "the sign of the cross", even if these are not words that appear in the Hebrew text, but wT'ø t'ywI"t.hiw> („make the sign *taw*").

The significance of the word wT' is that from the Hebrew dictionary, "the name of the last Hebrew consonant" (Koehler, 1953, p. 1920). The meaning of this letter is, at Ezekiel, a special one: wT' becomes a sign by which all those marked by the angel of God will be spared.

From a literally-historical point of view, the text mentions a sign which eases the delimitation, by the six men of the divine revenge, of the believers from the idol worshipers from the holy city, who were to be killed. But, if we go from the literal to the typical understanding, this sign should be T from hr"AT, which means that the Israelite had to remember the divine commandment which could save him from any danger, even from death. The real-typical meaning is underlined in the Romanian text by the phrase "the sign of the cross" which the paleo-Hebrew T resembles, a context in which the Hebrew wT'ø t'ywI"t.hiw> may be a direct allusion to the Holy Cross in the Old Testament. Also, Rev. 7, 2-4 refers to the believers' salvation through the Holy Cross.

2. THE LITERAL-HISTORICAL SENSE (PROPER AND FIGURATIVE)

The literal-historical sense can be proper or figurative, metaphorical, tropic.

The proper sense is the one of using the words with their usual meaning while the figurative is that of using the words with a meaning which differs from the usual one, by giving them traits of other beings, objects or actions.

In Jeremiah 2, 13: "For my people have committed two evils; they have forsaken *me the fountain of living waters, and* hewed them out cisterns, *broken cisterns*, that can hold no water.", there is no water or fountain in the proper meaning. Jeremiah admonishes the people, the unworthy priests and the political leaders who were *thirsty for the word of God no more*. That is why Israel will become opprobrious among the peoples (Jeremiah 2, 31-37).

In the Gospel of John 15, 5, Christ the Lord says: „*I am the vine, ye are the branches*", making us understand that only by the Eucharistic nurture from Christ-the-Vine can we live for eternal life, can we become aware of and responsible regarding our belonging to His mystical body, the Church.

2.1 THE TYPES OF THE PROPER SENSE

Expressing by using only the proper sense is very rare because the author often tries to express meanings that go beyond the words. But a certain way of expressing things may render a statement expressed in the proper meaning more beautiful, strong, dynamic and plastic. The figures of speech that this rhetorical process consists of are: the magniloquence, the hyperbole, the meiosis, the irony, the ellipsis, and the comparison.

a. *The magniloquence* is the articulation of a sequence or a word which the speaker considers not enough underlined for assuring an optimal decoding from the receiver.

In the Old Testament it is often announced the "day", "that day", "the day of God", but Zechariah (14, 1) states with magniloquence: "Behold, *the day of the Lord* cometh, and thy spoil shall be divided in the

midst of thee". Related to this, Saint Paul affirms that „*the day of God* will come like a thief at night", adding eschatological details (I Thessalonians 5, 1-11).

The speech that appeals to magniloquence is called magniloquent. It is more solemn than the usual speech.

b. *The hyperbole* is an artistic figure of speech by which one exaggerates intentionally, increasing or decreasing the features of a being, a thing, phenomenon or event in order to impress the readers.

As an example I quote the text from Is. 2, 2: "*And it shall come to pass in the last days, that the mountain of the Lord's house shall be established in the top of the mountains, and shall be exalted above the hills; and all nations shall flow unto it.*"

Saint Apostle Paul calls himself the chief of the sinners (I Timothy 1, 15).

c. *Meiosis* is a figure of speech through which one expresses, in an ironical way, the contrary of what one thinks. An appropriate example is the speech, of a special beauty, held by Jotham on Mount Garizim, a speech referring to his brother, Abimelech, and presented in Judges 9, 7-15, from which verse 14 calls for attention: "Then said all the trees unto the bramble, Come thou, and reign over us".

d. The *irony* expresses the contrary by a dissimulated, ironical speech.

Joel 3, 10: "Beat your plowshares into swords, and your pruning hooks into spears: let the weak say, I *am* strong!"

e. The *ellipsis* consists of suppressing a word or a fragment from the sentence because it is not essential or it can be deduced from the context. It is known the fact that the frequent absence of the verb "to be" from the Hebrew text is a characteristic of this language as we may see, for example, in Deuteronomy 6, 4:

`dx'(a, hw"ïhy> WnyheÞl{a/ hw"ïhy> lae_r"f.yI [m;Þv.

„Hear, O Israel: The Lord our God is one Lord ".

f. The *comparison* is the figure of speech by which one pinpoints the resemblance or difference between two terms.

As an example I quote Ezekiel 1, 28: „As the appearance of the bow that is in the cloud in the day of rain, so *was* the appearance of the brightness round about. This was the appearance of the likeness of the glory of the Lord".

Such figures of speech belonging to the literal proper style are very frequent in the Holy Scripture and bring a special stylistic value.

2.2 FIGURES OF THE FIGURATIVE SENSE

The figurative or tropic meaning is met when the author expresses something indirectly, by using expressions that are related to each other concerning the meaning.

The following figures of speech and stylistic devices led to a real literary adornment of the sacred text by giving it expressivity, coherence, and harmony:

a. The *synecdoche* is a figure of speech which consists of the broadening or narrowing of the meaning of a word by using the part for the whole (*pars pro toto*) or the other way around, of the particular for the general, of the material of which a thing is made for the thing itself, of the singular for the plural.

Jeremiah 23, 19: "Behold, a whirlwind of the Lord is gone forth in fury, even a grievous whirlwind: it shall fall grievously upon *the head of the wicked*" (the whole body).

Colossians 3, 15: „And let the peace of God rule *in your hearts*, to which also ye are called in one body; and be ye thankful".

b. The *metonymy* is a figure of speech related to metaphor, which consists in replacing the cause with the effect and the other way around, of the work with the author's name, of a product with its origin, with the concrete with the abstract etc., on the basis of a logical relation.

An example of replacing the work with the author's name may be read at Luke 16, 31: „And he said unto him: «If they hear not Moses and the prophets, neither will they be persuaded, though one rose from the dead»."

In order to describe longevity, a life rich in years, the Scripture of the Old Testament uses phrases like: "fullness of days", "advanced in years", *orek iamim* "length of days" (Job 12, 12; Ps. 21, 4; Prov. 3, 2.16), *iamim rabim* „many days" (Ps. 34:13; Eccl. 11:8), *sheva iamim* „sated with days" (Gen. 35, 29; I Cr. 23, 1; 29, 28; II Cr. 24, 15; Job 42, 17), *mle iamim* „full of days" (Jer. 6, 11) Or verbal expressions like *vehaarakti et iameika* „lengthen thy days" (I Kings 3, 14), *iosif al iameika* „He will add unto thy days" (Is. 38, 5). God Himself is described as being „the Ancient of days" (Dan. 7, 9), represented with white hair (Rev. 1, 14; Dan. 7, 9).

c. The *metaphor* is the figure of style by which a usual term is replaced, on the basis of resemblance, by another one, improper or figurative.

The Holy Scripture keeps very many metaphors among which: "the heart of the sea" (Exodus 15, 8), „the mouth of hell" (Is. 5, 14). Christ the Saviour warns His contemporaries to avoid „the leaven of the Pharisees and of the Sadducees" (Matthew 16, 6).

Sometimes God is endowed with parts of the human body (anthropomorphisms), human activities or traits (Ps. 33, 15; Is. 1, 20; Job 19, 21; Luke 1, 5).

Many of the metaphors of the text have been lost in the process of translation. Instead of the word with a figurative meaning, the one with the proper meaning was used. We have an example in Deut. 32, 18, a text in which Moses chides the people of Israel for worshiping the idols of other peoples and reminds it that the only true God is the One who "gave it birth" – the Rock: „You have forgotten the *Rock* (the *Defender* in the authorized translation) who gave birth to you and you have not remembered God who made you (with pain)" (personal translation).

`^l<)l.xom. laeî xK;Þv.Tiw: yviT,_ ^ßd>l'y> rWcï

The psalmist lends colour to this idea by the words: „He will call Me «You are my Father, my God and the Rock (the Forwarder in the authorized translation) of my salvation»" (Ps. 89:27-28, personal translation):

`yti(['Wvy> rWcåw> yliªae÷ hT'a'_ ybia'ä ynIaer"q.yIâ aWhå

In a theological meaning, rWc and the synonymous noun !b,a, „stone" may refer to the unchangeableness of God 's will, expressed by His laws (Exodus 24:12; 31:18; Deut. 4:13).

d. The *allegory* is the figure of speech by which abstract concepts are personified with the aim of transmitting a moral teaching.

For example, Ezekiel speaks, in chapter 23, about the spiritual prostitution of the two cities, Samaria and Jerusalem, presented allegorically as two sisters with symbolic names: Ohola „my own tent" and

Oholiba „my tent is in her". They debauched with their neighbors, the Assyrians and the Egyptians, i.e. they worshiped their idols and abandoned God.

e. The *parable* is a fictional story with a didactic character which transmits truths of faith or moral teachings. In the Old Testament we have the parable of Nathan about the rich man (II Kings 12, 4). Christ the Saviour presented a great part of his teachings through parables: that of the sower (Matthew 13, 18-23), of the king's son's wedding (Matthew 22, 1-14), of the charitable Samarian (Luke 10) etc.

The elements of a parable are taken from the daily life and also from the vegetal and animal world.

Saint Cyril of Alexandria (In *Commentary on Luke*) states: „Hidden and discreetly, the parables teach us useful knowledge least we contemplate their meaning closely".

f. The *fable* is an allegory which takes the form of an imaginary tale from the world of nature or of the animals, with the aim of rendering a truth more plastic.

An example of fable is the text Judges 9, 8-15, about the council of the trees on the election of a king from among them.

g. The *riddle* is a species of the folk literature by which the listeners are asked to identify an object or a phenomenon that is described.

Samson's riddle (Judges 14) is an obvious example in the Hebrew Scripture.

h. The *gnome* is a short sentence, an apothegm that represents a moral thought, a piece of practical advice. From among the numerous sentences of the Old Testament I mention:

Ps. 7, 15: „(*The unbeliever*, m.n.) made a pit, and digged it, and is fallen into the ditch *which* he made".

Obadiah 1, 21: „Pride leads to destruction"

i. The *symbol* is the concrete sign which evokes or represents, by analogy, something different from it. The symbols in the Holy Scripture may be:

- Prophetic symbolic acts
- Symbolic visions
- Symbolic things and persons

As examples I present theological symbols from *The Vision of Ezekiel* or *The Mystic Wheel* by Fra Angelico.

The elements that characterize the presence of divinity in Ezekiel's vision are also depicted by de Fra Angelico: the exterior wheel is surrounded by fire, its rungs are golden, sign of a radiant light, the idea of the spinning wheel leads to the name it was given by Ezekiel, *galgal* – "whirlwind", and the texts in the upper part of the image seem to be uttered by the all mighty voice of God who reveals Himself. Ezekiel himself (1:24) states that the sound that was produced by the flapping of the wings was "like the voice of the Almighty" (yD:v;-lAqK.) (*keqol Shadday*), on one hand an anthropomorphic description of God's manner of communicating, on the other hand, as the Judaic and Church tradition understood, a manifestation of the prophetic spirit through which God revealed Himself.

The exterior wheel represents the Old Testament, portraying twelve of its most important prophets: Moses, Solomon, Ezekiel, Jeremiah, Micah, Jonah, Joel, Malachi, Ezra, Daniel, Isaac, and David. Moses, flanked by King David on the right and King Solomon on the left, is the central character, holding

the two tables of the Commandments. From those aforementioned, Isaac is the only figure of the Old Testament who was not a writer.

The interior wheel represents the New Testament, portraying John, Simon Peter, Marcus, Judah Thaddeus, Lucas, Jacob son of Alpheus, Matthew, and Paul.

Not surprisingly, the four Evangelists are placed in such a manner that they form the sign of the cross. Like the four sides of the Cross, the correlation among the four Evangelists and the four faces of the celestial beings brings forth the symbolical significance of number four, as an expression of the idea of universality. Attentive to details (let us not forget that Fra Angelico exercised miniature, too, probably working with his elder brother, Benedetto, also a Dominican monk (James Mason, 1908, 27), Fra Angelico depicted the four with the faces revealed to Ezekiel: in the upper part John, with an eagle's head; on the right Marcus, with a lion's head; at the bottom Lucas, with an ox's head; on the left Matthew, with a man's/ angel's head (Clara Erskine Clement, 1895, 21-24). They hold codex (bound books) in their hands, in contrast with the other Apostles portrayed with scrolls in their hands.

The theological idea that the painter-monk wants to highlight is that God gave his Word through four accounts, differing in form but identical as regards the gist, united by the same Holy Ghost. The identity of the Scripture is linked to the identity of the source of its revelation, the Holy Trinity. That is why Jeronimus states: "Matthew, Mark, Luke and John are the Lord's team of four, the true cherubim or store of knowledge" („Matthaeus, Marcus, Lucas, et Joannes, quadriga Domini, et verum Cherubim, quod interpretatur scientiae multitudo"; Cf. *A Select Library of the Nicene and Post-Nicene Fathers of the Christian Church*, 1893).

In Fra Angelico's representation, the background for the Old Testament prophets is dark, as of the "people that walked in darkness" (Is. 9:1), who, in the New Testament "have seen a great light", so that over those who were living "in death's shadow" light will come, represented by Fra Angelico by the blue image of the sky. The exterior circle does not delimits, but leads to the center, to the interior, to the mystery, justifying thus John's text: "The light shines in the darkness, and the darkness has not overcome it" (John 1:5, parallel with John 8:12; 12:35-36.46; Luke 2:29-32; II Corinthians 4:6). It is also noticeable that there is continuity between the center and the poles of light of the two Testaments' representations.

Fra Angelico surrounded the exterior wheel of the Old Testament with the Latin text from Genesis 1:1-5: "In principio creavit Deus caelum et terram terra autem erat inanis et vacua et tenebrae super faciem abyssi et spiritus Dei ferebatur super aquas dixitque Deus fiat lux et facta est lux. Et vidit Deus lucem quod esset bona et divisit lucem ac tenebras appellavitque lucem diem". The interior wheel, of the New Testament, is surrounded by the Latin text from John 1:1-3: "In principio erat Verbum et Verbum erat apud Deum et Deus erat Verbum. Hoc erat in principio apud Deum. Omnia per ipsum facta sunt et sine ipso factum est nihil quod factum est". It is obvious that the texts chosen by Fra Angelico for the two wheels begin with in principio ("in the beginning") and this is to show the unity of God's revelation in the two Testaments.

In *The Vision of Ezekiel*, Fra Angelico highlights two fundamental characteristics of the revelation: the unity of the Scripture, from the first to its last word, and the intrinsic relation between the Scripture of the Old and the New Testament.

More textual clues from Ezekiel 1 and 10 led the Church Fathers to the argumentation of the idea of unity of the divine revelation. The four beasts/cherubs look identical (1:5-8) and that is why they are identified in Ezekiel 1:22; 10:15.17.20 by the singular hY"x; ("being"). Their unity results also from the fact that "their appearance and their work was as it were a wheel in the middle of a wheel" (Ezekiel

1:16). "Wheel in the middle of a wheel" is an image of the two Testaments' unity, an idea completed by other Old Testament theological images as of the cherubs "face to face" on the cover of the Tabernacle (Exodus 25:18.22; Numbers 7:89) among which God reveals Himself.

Ezekiel's wheel may be viewed as a sun with rays that burst from the center, and being itself as a continuous and infinite relation. As source of light, the wheel of revelation of the New and the Old Testament is the icon of God's light, of the eternal discovery of God's timeless love.

At the bottom of the representation appears prophet Ezekiel, on the left, and Saint Gregory the Great, pope of Rome in 590-604, on the right. The text on the upper part quotes a fragment from Gregory's homily on Ezekiel's book, a text first translated in English not earlier than 1990 (Saint Gregory the Great, 1990). Gregory the Great refers to Ezekiel's idea of wheel within wheel, with application to the two Testaments. It is important to underline the fact that Fra Angelico refers, in his painting, to Pope Gregory and not to Saint Augustine (354-430 A.D.), the one who established as dictum the phrase *Novum in Vetere latet et in Novo Vetus patet* (*Quaestiones in Heptateuchum*, 2, 73).

As biblical arguments for the idea of the unity of revelation and of the intrinsic relation of the two Testaments, Fra Angelico reproduces under each image from the complex *Armadio degli argenti* two scriptural texts: the first one is an Old Testament prophecy and the second one is a New Testament text that shows the fulfillment of the first. Each pair of texts exemplifies the idea of "wheel in the middle of the wheel" and demonstrates the authenticity of the holy text, and the reality and unity of revelation. God is the One Who speaks and the One spoken about. The revealed Word in the Old Testament is the Embodied Lord in the New Testament (Revelation 19:13).

CONCLUSIONS

The biblical text has two levels: a human one (the literal meaning) and the divine one (the spiritual meaning) which should be neither separated from each other nor mixed. In the first epistle to the Corinthians 3, 1, Saint Paul states: "And I, brethren, could not speak unto you as unto spiritual, but as unto carnal, *even* as unto babes in Christ". Consequently, he differentiates between two levels of human understanding: the spiritual (*pnevmaticos*), hidden, and the bodily (*sarkinos*), literal, obviously.

The Church affirms, by its patristic and liturgical thesaurus the *universality and unity of the literal meaning*, the fact that *the Holy Scripture is, in its integrity, revealed*, it is the Word of God.

The Christian has to read the Scripture while having "the mind of the Lord" (I Cor. 2, 16). Thus, Saint Maximus the Confessor stresses: "there is a gradual incarnation of Christ in the reasons of the world, of the Scripture, and of man, corresponding to the natural law, the written law and the law of grace.". Christ, the Word of God, is Scripture or, in other words, is incarnated in the Scripture. Christ Himself is the interpret of the Scripture.

Saint Maximus the Confessor's words, written in *Mystagogy*, constitutes a patristic conclusion to the issues presented in this course: „The Holy Scripture, taken as a whole, is like a man, who has the Old Testament as his body and the New as his soul,…and mind; or the literal history of the whole Holy Scripture, the Old and the New, the body and the meaning of the what is written and the aim towards which that meaning tends, the soul […] Because, as the man is mortal according to what is seen and immortal according to what is invisible, so has the Holy Scripture the *visible letter* and the *grace hidden* in its letter never stops existing. And as man, while mastering by wisdom the want and the sinful tendency, withers the body, so does the Holy Scripture, understood spiritually, cuts out the letter from itself. […] The more its letter withdraws, the more grace increases."

„[The spiritual man] should go up with wisdom towards the Holy Ghost through the thorough study of the Holy Scripture, rising above the letter. Because it is in Him that one finds the whole good and the hidden treasures of knowledge and wisdom, inside which the one who becomes worthy to enter, will find God Himself inscribed in the tables of the heart by grace."

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

PRINCIPLE OF GRACIOUSNESS AND LONGING OF THE AUTHENTICITY OF OUR BECOMING *VERSUS* THE INTERFERENCE: MULTIPLE INTELLIGENCES – MULTIPLE GRACES

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Abstract

Graciousness, as a general principle of human awareness, incites in a phenomenological way (the nine axiological possibilities) a process of continuous upward valuation: Man, horizon of Mysteries – Man, horizon of Great Virtues. Across of what the success of multiple graces (of the multiple mutations ''on the board'' of competitiveness) exalts directly in identical strategic identities: Multiple Graces - Multiple individualities, if to emphasize pointing on the indicative (guiding) joints of the Graciousness generally- the completion of personality by discovery and vice versa – the discovery of personality by completion. Namely, under the auspices of multiple graces, is conducted/ excels the phenomenological integrating joints of the multiple intelligences, especially valuing the intrapersonal and interpersonal valorization, which actually detaches the vocational functions of the valorizing ego at the level of multiple Graces (The Three Graces) of Antiquity. However, this particular stimulatory gratitude shall become the guarantor of our desired completions, taking into account the graces as real actionable possibilities or as possible actions arising from that desire, that longing for achievement / self-realization. ***The longing*** *by mind and spirit, proclaims, in this way, its revelatory authenticity reporting to the lived or feasible reality.* ***Knowing to enter in the graces of valuable time*** *– is looming the skills / abilities as a finality of an achieved goal shaped by / on '' some associated experience" oscillating between past and future. At the moment, longing resigns naturally as stimulus of free consent authenticity of valuable self-determination. In other words, Graciousness, as principle of general axiology, expresses the first condition of the longing to self-realization through reason and revelation.*

Key words: *Man, multiple graces, horizon of Mysteries, horizon of Great Virtues, focusing on capacities…*

From the complementarity of some subjective-predictive records, the action *to grace has been perverted in* phenomenological (interactive/retroactive) *attitude* of verb-adverb towards the manifestations of universal good (common) sense–to make graces, to get into somebody's good graces. But, the nominal derivative of such sensitizing action – graciousness, *having a strategic retroactive (cause and effect) character, at level of free will (the Graciousness) having, in a direct evidence, the effective significance of freedom), designates the willful action of the acting parts on the entire sensitizing process results in a righteous integrity – Human, horizon of Great Virtues. Thus, the interaction of hermeneutic – hermetic and, respectively, hermetic – hermeneutic gradually erupts in a product/products of own embryonic-fructified completions cumulatively are sediment in depths.* In this context, we shall insist on the two completing sides of authenticity. **The first one** affectively focuses on the idea of G. Calinescu about "restlessness and adventure" – at the level of "longing for what is the most beautiful and perfect" (see the folk tale *Miron şi Frumoasa fără corp (Miron and the Beautiful without body);* **the second one** – to Camil Petrescu (în *Nopţile de Sînzenie (Nights of Midsummer Day)* lent on "the essence of lived life",

prerequisite or condition of "the absurd game" of the existence of lived values by which there is synthesized the fact that the authenticity does not oppose to the whole, but rather it is an effect (result) thereof. At the *Man, Horizon of Great Virtues* level, *to live is to arouse temptation of knowledge, to invest knowledge in the fund of own completions, to initiate yourself to invent a new world – to build possible worlds able to enhance the authenticity of existence.* You can be authentic only in the case of some possible chances of being in a true and real estate of graciousness – of ascension of the *Man, from the horizon of mysteries* towards *Man – horizon of great virtues.* Practiced in educational system, inter-disciplinarily and trans-disciplinarily become is completing to the phenomenon of authenticity. To be authentic means, in our opinion, to be in a total state of graciousness of returning with much longing and love to the essence of "the first adventure" and the fusion/contamination with the value space of universality. But, this particular stimulatory gratitude shall become the guarantor of the most desired (coveted) completions, taking into account the graces as actionable possibilities or possible actions *occurred from that desire, that longing* of fulfillment/self-fulfillment. The *longing,* by mind and spirit, thus proclaims its revealing authenticity towards the lived reality or feasible reality. *Knowing how to get into the good graces of valuable time* prefigures (foreshadows) the ability (skill)/abilities (skills) as finality of a purpose achieved/shaped by/on "a certain associated experience" oscillating between the past and future. In the present, the Longing naturally resigns as stimulus of the authenticity of the free consent of value self-determination. Longing for life, longing for adventure come both from surface – from those heard, and especially from those seen (from the deceptive magic of the eye), but also from the underneath or beneath of the unsuspected feelings of the permanent adamant soul/"animator"/mover. *Hence, we shall conclude that plausible sheds or senses of contemporaneity are not those of integration in authenticity – the authenticity itself re-consigns the plurality mediated (propagated through the media), self (by return to essence) at the stage of incipient (earlier) valorizations – but those of free engagement in the service of consubstantial authenticity of perpetual perversion in new configurations of natural becoming.*

1. KNOWING HOW TO DO GREACES AT THE LEVEL OF SYNTHESIZING (CONSOLIDATION) OF VALUES AXIS

If we make an analogy with the lexeme *grammar* which means the concept (notion) of correctness both at level of morphological manifestations of performing arts, and at syntactic level – synthesizing (consolidation) of values axis, and then discovering the world of mystery at the level of *longing* acquires epistemological predominance in a certain ''grammatical'' way, towards the skill *of knowing how to do graces or knowing how to reflect the truth (veracity) of identity of epistemic graces. The functions of multiple Graces* (on a formative field they relate to the factual grievances of self-fulfillment) are those to know how to get into the graces of primary time regarding the three basic principles of ever didactics: knowledge, communication and creativity.

The main objective of multiple graces is re-consignment of *human as horizon of mysteries,* and at level of transcendence *–his ascension up to the Horizon of Great Virtues.* Therefore, it would mean to opt for a whole space of general axiology called: Graciousness. The modalities (forms) of spreading of multiple graces, by interpolating the three principles of ever didactics, obviously has an epistemic-strategic and sensitizing character at the level of elegance of stylistic matrix of each separate identity, and of the entire humankind (human race) in general: principles, methods, objectives (purposes), skills/finalities, ideal of life. The finality (goal) of a pastoral (mioritically) grace personalized is the virtue itself. However, when we propose ourselves as objective to get really integrated in the graces of valuable space, in the graces of own phenomenological episteme, others do not know what they feel, but we have the feeling of an

opening with much love of the prospects for broadening our own horizon of the alleged virtues… Nothing is more holy and more beautiful than the presentiment (premonition) of self-completions!

The very explanation from dictionary is a logical staging (phasing) prefigured by content performance (evolving)/assessment at a personified level by agent/agents of action: grace, graciousness, gratitude, the three graces (goddesses) of antiquity, to do graces, to get into somebody's graces…; Graciousness– the action of grace and the result thereof; national and Christian values; general human values under which cover the entire path of spiritual transcendence evolves (performs). To be in a state of graciousness or gratitude means to be in the nets (meshes) of multiple Graces, at the border between the beautiful and the sublime, where the full theoretical and praxiological engagement dwells: the theory of multiple intelligences, the theory of integral knowledge –theory of types of knowledge in general; the theory of self-completion, interpretation at the level of phenomenological authenticity in particular.

Thus, the Principle of Graciousness invokes an integrating/illuminating strategy as regards all mentioned theories, a fact considering the requests of Florin Frumos: ***"All three types of knowledge are simultaneously learned, so that they may actually lead to the behavioral noised (trumpeted) a lot in the traditional definitions of learning…" (7, p.119).***The conditional knowledge is assimilated together, i.e. at the same time, in the same structure with the declarative and procedural ones, that if we consider the principle of Graciousness as a leading integrator principle.

2. LONGING – SYNTHESIS OF AUTHENTICITY OF BECOMING ON THE SCALE OF MULTIPLE GRACES

The utilitarianism of germ favors the meaning and sense of birth and development of a new creature, a new phenomenon; the longing, in such genealogical position, excels (transcends) the initial stage of a certain specific modality (way) of germination/stimulation of fond (sake) for life opposite to the fact of doing graces in the name of love for the close person. The ***longing of introversion/extraversion gets the preponderances of a genuine germinator principle, permanent preference of being in the exercise of fond (sake) for life. One of the most sacred axiological predestinations of grace/to do graces, at Moldovans, namely rises from the most subtle affinities of doing well; doing well*** in this regard having a double motivational significance: a) ***extrinsic***, occurred from necessity, from duty, and (b) ***intrinsic,*** rising, in particular, from a certain kind of oneself being in the riverbed of fond (sake) to do well – joy (happiness) of completing tendency. The expression "I have been caught by a longing for death" is often and frequently used by us for the purpose of doing something useful for the most ones to like, but especially for the 1st person (something not enough determined). And namely this internalization (introversion) rather erupts in the product of the most desired completions. It happens that the ***longing for sacral,*** opposite on the ability to do well, can be *intrinsically* motivated only by a certain inexplicable passionate way of not fidgeting (being in a tear) until the time and moment of desired achievements. Besides *godliness (piety),* value predetermination of entire Christendom (Christianity), the longing for Romanians initiates multiple graces on the path of value victories. To do something from duty sometimes contravene to the will to do well. The duty itself is motivated by longing and for the sake of doing well. Therefore, the responsibility, in this way, is an ethically/aesthetically motivated one, towards certain flair (hunch) of evolutional germinations: longing for the parental home (homesickness), for beloved person, for being captivated and indulging with passion is a fact of life. The projection of eternal searches "lighted up before the eyes as a mind (conscience)". The graces are a prefiguration of the complex ego occurred through a spirit and mind eager for materialization. *The longing for what is more perfect* at the time of disavowal (denial) becomes in regret (sorrow) – disease antipode to cleverness (skillfulness). The longing for fulfillment or achievement comes from the mind of overcoming the

obstacles that stand in the path of fulfillment or achievement. The longing exalts, but also procrastinates the Romanian-Moldavian person, when he estranges from the principle of germination of his dignity – to do graces in order to break the deadlock – to do graces regarding the self-regulation (self-adjustment) of own intentions; of integration in an environment favorable to self-completions. Certainly the *longing*, its predestination, is firstly the one of exalting or ascending the spirit by conscious overcoming of earthly pride. Therefore, the failures of the desired one are sickly supported. Hence, the entire Romanian mythology is bearing/regulating this stimulant of authenticity of becoming called longing: "The one who is touched by longing shall not think it is a joke"… "and then when he was longing to go, he was gone", "And, then running and running after a rabbit he did not even notice when he arrived in the Valley of Grievances (Valea Plângerii), and he was caught by a longing for the loved ones, longing for parental home (homesickness)" (back in time) after the fall of time – our longing for life is able to overcome the condition of the dynamic equilibrium of doings (perpetrations) towards what is reconstructed as rationality and revelation. The *longing*, as a synthesis of the authenticity of becoming, always remains to be the stimulus of our consubstantial aspirations/records at level of Graciousness.

The core of our epistemic consistency is configured, as mentioned above, by many interpretative facets of longing (as authentic spiritual evidence) on the norming scale of multiple Graces: return of duality to essence, creative self-re-consignment as horizon of great virtues, continuous formation, value regulation/self-regulation, ascension through spirituality, integration/reintegration in value time and space; re-consignment of a joint ideal of life at level of human dignity.

3. PRINCIPLE OF GRACIOUSNESS BETWEEN TO THINK (THINKING) AND TO BE (BEING)

Interpretation of key-terms according to the Explanatory Dictionary (DEX) of the Romanian language:

Intellectual= 1.Adj. which belongs to the intellect, which refers to the activities of the mind, intellect. 2. N. a person possessing/characterizing a preparation (training) of thorough (conscious) specialty and working in the field of arts, science, technology etc.; person belonging to intelligentsia (intellectuals).

Intellectualism =1.Concept (Idea) according to which the intellect, rationality is capable of understanding the world – understanding the good involves committing it. Grace as a product of personal/interpersonal achievements of actions thereof.

Intelligent= adj. endowed with intelligence, clever, sharp-minded (quick-witted). **Knowing how to be smart (resourceful)** = to feel (seize) the essential by returning to essence.

Intelligence, intelligences = the ability to easily and well understand, to feel (seize) what is essential, to solve situations or new problems based on the previous experience; capacity of technical systems to achieve performances.

*3.1 The Graciousness is a process bearing a guiding – inter-relational character***.** The Graciousness as an intellectual process characterizes not simply the movement – the entire vegetal world has the ability to move in a way or another. Only the human consciously has graciousness, as an intellect, regarding his own way of being, of creating/pro-creating himself.

Both on surface and in depth, the human intellect is haloed with a well-determined fact of life afferent to the specimen it represents: *to think and to do.* Any of multiple graces, in some way, at the level of Graciousness, certifies an actionable/strategic possibility of norming achievement (of more movements

in one sole unison) specific to the edifying (illuminating) requirement; thus the graciousness producing itself as value by value only at the level of the *longing* it predetermines.

The lexeme/determinative *to grace* refers (in our case) to the capacity and ability of the human intellect to make movements (to keep every movement under control) when actuating his mental activity and not to the instincts specific to any creature incapable of thinking. The stimulus/stimulant of graces/pardons (reprieves) being, in a direct measure, palpable to the propulsive internalizations (introversions): pleasure and pain versus pleasure of pain: Longing. A cat and a swan, and any other creature also can do graces, can be graceful, but not to the extent of self-awareness fact.

3.2 Two representative forms of self-knowledge and five stages of civilization evolving

The two forms of self-knowledge predetermine:

1. Self-knowledge at the level of telluric perfection (completeness) we are striving to;
2. Self-knowledge at the level of terrestrial (earthly)/ordinary of the reality we are fitting in.

Discovering the world of mystery requires a total engagement towards the fact that "there is also something nice" in every creature and in all alike.

3.3 According to Hegel, the History of civilization knows four stages of development:

1. The Orient (East) – age of civilization childhood;
2. Ancient Greece – age of youth and beauty;
3. Roman Empire –age of civilization Renaissance;
4. Germany – age of civilization maturation.

The modernity acknowledges and admits still one more –the fifth stage:

5. Globalization – age of freedom of complex self-affirmation. All these five stages of development of civilization implicitly integrate the two representative forms of self-knowledge at the level of possibility to domesticate (denizen) the Graciousness as a continuous valuable space of sensitization/revaluation of spiritual becoming.

3.4 The sensitive factor plays an important role on the path of acquisition of Truth *of knowledge* determined by the existence of an objective reality of conversion thereof (of knowledge) into competences (skills). The formation of competences (skills) regards the twinning of the two completing imperatives: theory and practice on the line of constitution of the beautiful/good as an acquired value. Thus, we can add here that all our tendency of knowledge is moving towards the value of truth and, respectively, we can call all the types of formal/non-formal knowledge as steps to achieve such value. And the purpose of the formation process of subject/object of knowledge, value as such, follows the utility of factual externalization of the unique fact of life (existing) (longing) sensitively and inner settled out. In other words, ''the transcendence isn't a foreign body transplanted into the body of world, but it is the revelation of hidden depth of the world itself '' (Evdochima, 1992, p.135) in Ed. Religi.p.165, above).

However, our greatest fact of life (existing) is *to masterfully vibrate the strings (chords) of longing we belong to* namely by reason and revelation.

The interactivity (disciplinarily – interdisciplinary – trans-disciplinary) established on the harmonizing inter-polarization: multiple intelligences – multiple graces (regarding those reported above) phenomenally transcends into a hermetic/hermeneutic process relevant on the universality scale.

Deliberate reflections excel (transcend) during the classes of *Free will* on the stage of awareness of the fact that the path of knowledge, in fact, is/should be the path of truth.

The Graciousness, as mentioned above, is a continuous process of ascending valuation: Human, horizon of mysteries–Human, horizon of great virtues. And then, the success of multiple graces/of multiple mutations "on the game board" of competitiveness is directly proportional to the identity strategic finalities thereof: Multiple Graces/Multiple individualities, if to emphasize the orientation pointing of Graciousness in general – completion of personality by discovering and vice versa – discovering the personality by completion.

The phenomenological pointing of multiple intelligences is namely conducted/exalted under the auspices of multiple graces, a special preponderance (predominance) being particularly acquired by the valorization of intrapersonal and interpersonal intelligences, by which fact we detach the vocational functions of the valorizing ego at the level of multiple Graces (the three graces) of Antiquity.

In this context each principle, towards its strategic possibilities, prefigures itself a valorizing integral process. If the Graciousness is a process, then the multiple graces are multiple norming possibilities of conversion of theorizations into attitudinal competences (skills). From the epistemic point of view, the Graciousness, being "the plan the education should be guided by", relates to the philosophy of completions, i.e. to the psychological and pedagogical sciences towards which fact we shall also add that an authentic attitude (behavior) relates to a certain interpretative culture of formatting itself.

3.5 The hermetic/hermeneutic functions of multiple graces

- return to essence;
- systemic/functional integrator character;
- harmonization of differences;
- spiritual transcendence;
- adjustment (regulation)/self-adjustment (self-regulation);
- conversion of possibilities into competences (skills);
- epistemic identification;
- complex valuable space;
- awareness of authenticity of becoming;
- Responsibility of self-completions.

4. HEGEL, TRANSITION IN THE GREEK WORLD

Apollo, the Greek God, as the embodiment (personification) of emancipation (unchaining) of the truth of his human being pronounces himself for the knowledge of the self: *Man, know thyself!* This sentence (judgment) does not refer to the knowledge by man of particularities relating to own weaknesses and imperfections; "not the man as an individual is the one who must recognize what it is specific thereto, but the man as such must recognize himself" in the specific features of the entity which he is originally

from. (our not.) It is the credo of the Greeks, in the Greek spirit the human appears in the clearness of its development.

Paraphrasing Hegel (I., 213), we also dare upon the fact that "Moral clarification reaches to reconciliation with oneself" only (in the rays of sublime –of moral beauty) when "it is structured by civil laws and political freedom". Thus, the principle of Pardon (Reprieve) namely insists on this fact.

In the same context, the great philosopher pronounces himself upon the fact that "the freedom of spirit (according to us, in the context of Pardon (Reprieve) is conditioned and is in essential relation to stimulation. The Greek freedom is caused (provoked) by something else and is free by fact that it converts (transforms) and causes the self-stimulation". Pursuant to Hegel, ***the freedom of self-stimulation through creation*** is the one to return the form ***of beautiful individuality*** to the Greek character. Pursuant to our opinion, the Romanian freedom is challenged as in case of freedom of any other nation (including the Greek one) of same stimulation of feelings from oneself/by oneself. But this stimulation of self-feelings comes to keep the price here a little bit differently by/from the depths of flounders (struggles) of human in a same continuous mixture of *pleasure and pain* which, in the language of our feelings, as we have shown, is called: ***longing***. But, namely the *longing*, pursuant to Constantin Noica, with reference to Aristotle, is the substance of our identity fusions/sedimentations from/through *pleasure of pain: "But he who has feeling, has pleasure and pain, feels both the pleasant and the painful, and he, who has these both, has also desire, because this is the impulse towards the pleasant object (Aristotle, p.105).*The stimulating character of the Greco-Roman roots reach (in the Romanian territory) the heights of sublime individualization just being easily carried by/on the wings of longing/desire for affirmation; namely the *longing*, serving as an impulse/stimulus of *ascension through spirituality*. The freedom of self- stimulation is promoted / engaged here through longing, through the longing of confirmation/ exaltation of self-sublime at the level of universal engagements. If "the Greek spirit is the artist who transforms the stone into a work of art (as Hegel rightly highlights the same), then pursuant to us, the Romanian spirit is directly the spirit of Multiple Graces, vocationally engaged on/to the string of longing of propulsions of/from self, *of longing for adventure and messianic immortality* (by the *Myth of Zalmoxis*), of dignified return to sacredness, *to the square of the hypotenuse* of the whole universality (regardless of whether or not Pythagoras was the disciple of Zalmoxis); *longing for what is most beautiful and perfect* of our popular genius („Miron şi Frumoasa fără corp"("Miron and the beautiful without body"), word art, art of musical intonations, art of feeling through color, art of ballad rhythms, rhythms of doina of our pastorate able to translate the non-being into a being since Orpheus by Ovidiu to present…

For Romanians the longing is the keystone of opening the internalizations and stimulating integration into universality – the keystone of self-knowledge at the level of ascensions through spirituality.

According to Hegel, we recognize three realities of spirit awareness:

The first reality is the concept of religion itself, i.e. the religion as direct (immediate) religion, and therefore the natural religion; therein the spirit is known as its object in a natural form, i.e. direct (immediate) form.

The biblical myth of Cain and Abel is recognized by us in the folk ballad "Mioriţa (The Little Ewe)".

The second reality of spiritual awareness is necessarily that of knowing oneself in the form of suppressed nature, i.e.in *the form of One Self. It is thus the religion in the form of arts; because the productive configuration of consciousness rises up to the form of One Self, by which it sees the object, action thereof, that is the Self.*

In this view (religion as art) it is definite the recognition for us/by us of the motive of Master Manole (Meşterul Manole) and again, the Mioritical one.

The third *awareness of spirit,* finally, suppresses the unilateralism (sidedness) of the other two; *The One Self is at the same time a direct Self as the immediacy is Self.*

If in the first, the spirit is the form of general consciousness, in the second – the form of self-consciousness, in the third – the form of unity of both; and since it (the spirit) is represented for itself, it eventually expresses the effects of relevant religion. Although the spirit reaches in it (in the relevant religion) its true configuration, the configuration itself and the representation comprise the exact unsurpassed side from which the spirit shall pass into concept to completely dissolve the form of objectivity therein; a concept that also includes its opposite (the contents to render the form and the form, its opposite, which is the content).

The pointing of concept is to target (aim) to both at once: in content and form, in substance and evidence thereof. By configuration, the designer (conception person) shall give rise to a new engaging vision, integrating a new mode of motivational relevance of the germinator concept: pastoral motive and motive of sacrifice on behalf of creation… (our not.). So one might think that the spirit proscribed the principle of its consistency at the level of possibility of self-awareness by itself, i.e. towards its existence in fact, "because this (the consciousness) is the concept, is the Spirit Itself" (F.S., 387).

As regards the **Phenomenology of art** we shall also add, in *the first place,* that *the German classical philosophy* had, as ordering principle, the prevalence of whole upon the part. Here we are required to differentiate: what can be considered a whole and what can be considered as part?

Definitive for *the German classical philosophy was the systemic nature (character) thereof;* this implying as ordering principle the *prevalence of the whole upon the part,* involvement of various philosophical disciplines in a single philosophical vision. And *secondly,* that Kant was the Hegelian model: Kant's constructivism required the perfection and completion of "critical" triad, completion of "pure rationality" and "practical rationality". The constructivist philosophy expresses "the power of judgment" as prevalence of the whole; by a philosophy of art and a trilogy, claimed by architectonic (architectural) considerations. Thirdly, "The philosophy of art" (according to Schelling) was consubstantial to the "system of transcendental idealism "which Hegel completes with the involvement of historical in logical, determining the history/**being**(existence) as becoming; the **system** as logical progress of events.

Finally, ***the competence which Hegel tended to: it was the Absolute Spirit to know thyself first as an art, then as a religion and as a philosophy.*** The forms to gather the objective with the subjective into an absolute spirit are those by which the consciousness finds its freedom: religion, art and philosophy. Therefore, the principle of general axiology incorporates these three basic contingencies of the Phenomenology of spirit through which the Classical poet of the Romanian poetry, universal poet, Mihai Eminescu, assumes the name of German intellectual model – an indisputable truth prefiguring in the entire creation thereof, and especially in *Geniu pustiu (Empty Genius*) "Everything is relation (relative), says our Eminescu, who defines the head (mind) of a man of talent as an illuminated room, with mirror walls in which the foreign ideas find a "society", "a party", an harmonization: "And how do they get out of this illuminated room? Many first enemies result as twinned ones, all knowing each other, all clearly knowing the relationship they are or may be in – and thus it is communicated to auditor (listener) and he feels before a harmonic world attracting thereof". *The great Critics of Eminescu's creations Mihai Cimpoi detaches, in the prose of poet, the intuitive instinct of a promising future focused on competitiveness of competence (gifted) of searching and finding a space of our authenticity (of*

Graciousness favorable to the maximum engagement of the will of power, "The will of power appears not only as power that reduces and underestimates the relational (interpretive) meanings, but also as will of harmonization, as "science of clear relationship"(5, page 18). The Romanian researcher, Ion Ianoşi, in the preface to the Phenomenology of art, warns that, in general, in the ***"Phenomenology of spirit", Hegel predicts an empire of freedom,*** *which Lectures on aesthetics* will detail in relation to art as being one of the most important areas of freedom, we shall also add here that the genius (brilliance) is always dialectic, *and the ultimate equivalent of dialectics is freedom (Phenomenology of art, p.XCIX-XCX).*

5. INTERRELATION MULTIPLE GRACES – MULTIPLE INTELLIGENCES

The scientific annals prove that Gardner's theory about the multiple intelligences has a great heuristic value and the reductionisms are initially from the start. ***Thus, to the question "How to educate the multiple intelligences?", Gardner replied that there is not a unique and single recipe or formula for the education of intelligences. The theory of multiple intelligences attempts to describe the evolution and topography of the human spirit, not to develop a certain type of spirit or a particular kind of human being*** *(Gardner, 1996, p.72).*This is what suits to the principle of Graciousness regarding the recognition and admission of the human factor as individualized general intellect at the level of preserving / evolving the epistemic germinations. Of course, no one can be predisposed to develop a certain type of spirit or a particular kind of human being – this would move the epistemic authenticity which would directly hit in the principle of general axiology, the one of Graciousness, towards which fact the evolving shall freely occur in line with the own laws of epistemic germinations–to do graces towards the positive possibilities of instinct of self-formations. The advantage of completions awareness is obvious in all kinds of intelligences which also carry and bear the universal character (nature); the path to universality being directly covered on the path of authenticity of own internalizations (introversions). Calming or increasing *the longing for adventure* occurs for us through the natural law of exteriorization of internalizations (introversions): *to do graces in a certain favor*. What is the relocation of the nine (multiple graces) requirements of Pardon (reprieve) does not mean more than the harmonization of all contingences (concerns) of general axiological principle in a unique circulating (spreading) process of integral formation/evolution of the creative individuality as regards the pre-dispositional reflection of multiple intelligences, of sensitizing force of *Longing as stimulant of self-manifestations.*(our not. L.B.).

Thus, the expression *multiple intelligences* exhibited by the great expert may have at least two distinct meanings: on the one hand, it may suggest the existence of more intelligences, relatively autonomous, from the same person, and on the other hand, it can induce us to the idea of existence of a single intelligence (assimilated to factor G), manifested in different forms and types; a unique and single, but multiform intelligence with more facets or appearances (aspects). Both meanings appear somehow justified, in Gardner's book being suggested an almost perfect synonymy of terms… The intelligence is an entity, a homunculus, indirectly measurable by various tests". ***The multiple graces, however, are multiple functional possibilities (regarding the whole formative process) of estimation and control trial of the case by the effect produced at the level of multiform intelligence.***

The experts in the field argue that the Theory of multiple intelligences is not completed, exhausted, not even under theoretical report; Gardner himself admits that there could also exist, in principle, other intelligences, not considered in the original theory or that their number could be restricted; moreover, there are similar competing theories which TIM resembles to; for example, the three-arched theory of intelligence of Sterenberg believes that intelligence has three dimensions: componential/analytical,

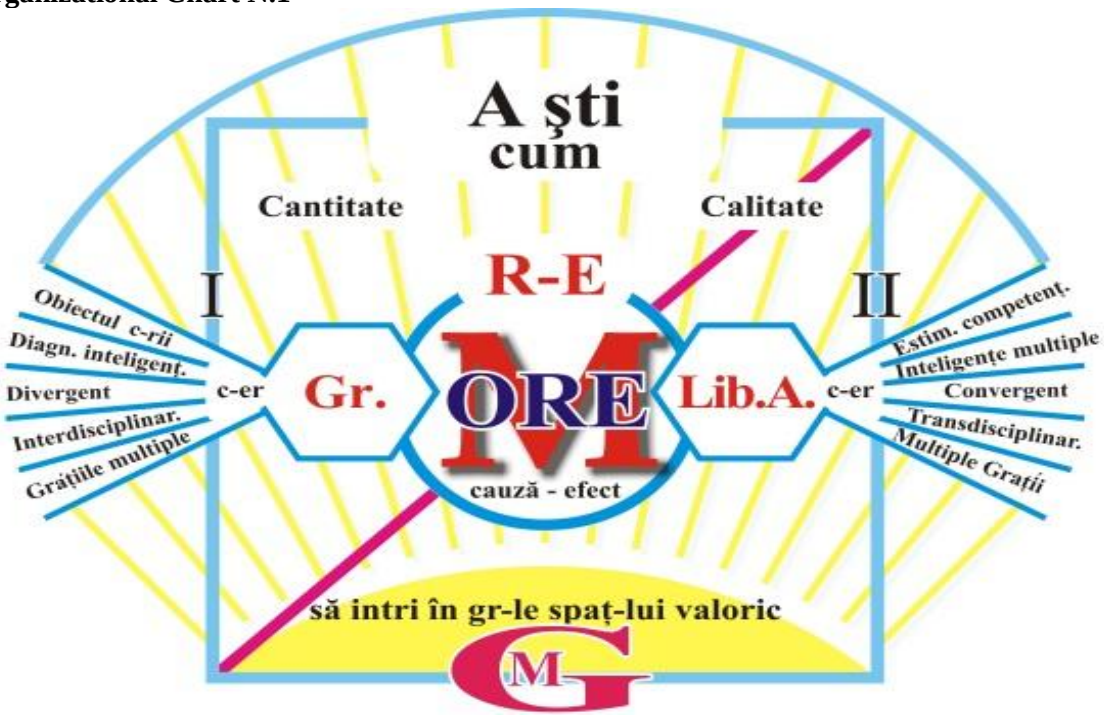
ISSN 1313-2571, Published at: http://www.scientific-publications.net

practical contextual and creative experiential. The priorities of multiple graces are the priorities of the opportunities to especially enter in the graces of three-arched theory of intelligence of Sterenberg: componential/analytical, practical contextual and creative experiential ***–according to our observations to Sterenberg, the intelligence appears under the aspect of value product – as finality of the interaction of individualized and customized multiple Graces – human, phenomenon and numen.*** Gardner himself notes approaches (proximities) between the practical intelligence postulated by Sterenberg and the interpersonal intelligence from TIM. However, as a general principle, he states that it is not desirable a theoretical eclecticism, but a strong, consistent theory with a great explanatory and predictive value (Gardner, 1996, p.59), it is a truth that fully ensures completing virtuosity to Graciousness as general principle and global space of complex spiritual exploitation.

6. HUMAN, HORIZON OF MYSTERIES - HUMAN, HORIZON OF GREAT VIRTUES

We consider that becoming is producing and has to be produced from the moment when we all, who is hired on the realm of education, will formatively opt for Phylosofy of education based on identification an optimum pathways during the cognition process, on authentic identification of becoming on competitive level.

Organizational Chart N.1



Or, the space of self-completions has to be divinatory one, centered on Human as right *horizon of mysteries (by Lucian Blaga);* centered on Human as *right horizon of Great Virtues – by our vision (Org. 1-2).* By John Dewei, a *filosophy of education, as any other theory, has to be formulated in words and symbols.*

But real problem is something more than just verbal one: it is about a plan, that education has to follow(5.p.58) In visor of our preoccupations this plan, this leading path is the one of ascension: *Knowing how to get into graces of valuable time – Knowing how to get into graces of valuable space.* Or, the nine possibilities of the principle of Graciousness, configure the epistemic model of romanian-moldovan intellect, epistemic profile of authenticity of becoming. The following schemes demonstrate the fact that Graciousness is a general axiologic principle, and also is a principle of academic integrality of formation the *„whole personality" (2).* Or, the culture of upright philological education conceives and continues throgh „this plan" – general axiological principle „that education has to follow".

The enigma **(OCI/GM)** ***Human, horizon of integral cognition*** is deciphered at several stages of classess at regulation/autoregulation through cause-effect. Here the classes of Graciousness are of objectives formation, but the classes of free arbiter are of self-evaluation of competences on the path of becoming; reporting on this fact ***classes of Graciousness*** have quantitative - divergent character of discovering the world of mystery – of multiple facets of internalizations – the object of self-cognition is incited differentially on the level of multiple disciplinarity; ***Classes of Free Arbiter*** - convergent qualitative character of self-valuing, of manifestation of Great Virtues on the level of inter-transdisciplinarity: *multiple intelligences – multiple graces.* Thus we can demonstrate that in the *integral space of competitive valorizations* –necessities, possibilities, capabilities - palpitate preponderance of reporting multiple Graces vis-a-vis the nine possibilities of Graciousness (noticed above). While *capacity* designates possibility of individual (power of the will) to accumulate a substantial amount of cognitive energy, possibility hires multiple graces to the bar of valuable time (meta-cognitive) of interaction of multiple intelligences. Interactivity in this way, focuses on the two poles group: a) multiple Graces b) multiple intelligences (in our case - intrapersonal and linguistic intelligences) transcends phenomenally in augmentative optimal process ...Furthermore deliberate reflections within the hours free arbiter, being powered motivationally intrinsic-extrinsic reputes grouting of completion on the valorized self.

Human - double significance of the same content as the impulse of self-cognition.

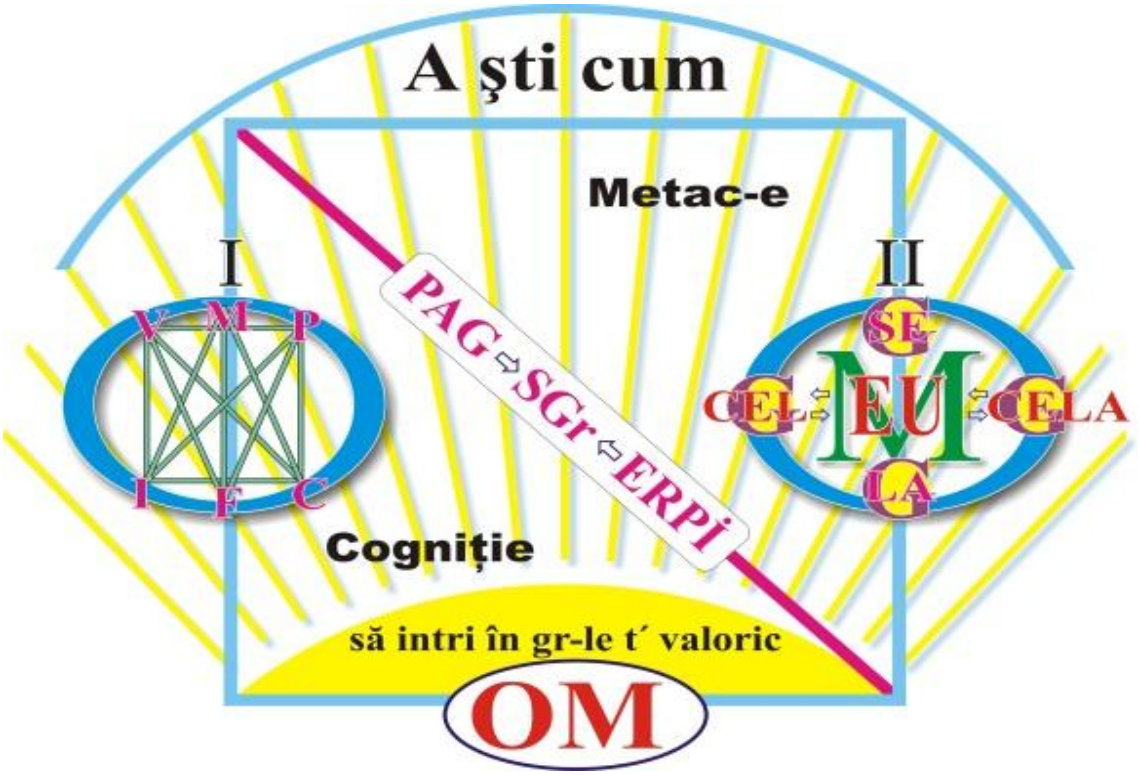
I. Human, horizon of mysteries (by Lucian Blaga). ***M****-matter, environment,* ***V****-value / evaluation;* ***P****-creative product, creativity,* ***I****-inspiration / creative stimulus,* ***C****-creator ;* ***F****-shape/ project creation.* ***PAG****-principle of general axiology,* ***SGR****-space of Graciousness,* ***ERPI*** *- eternal return to the square of the hypotenuse. On the level of formative process based on Graciousness, complex cognition favored to investing / conversion in skills - needs and possibilities culminate with the true art of human awareness through cognition - creativity - communication.*

II. Human, horizon of Great Virtues (by Liuba Botezatu)

Focusing on ***Human****, as the right integral value. Horizon of Great Virtues; Letter* ***M****– three of* ***V:*** *value, life, victory/virtue - the sacred prevalence on the profane. Human can be discovered just in the space of Graciousness –* ***G,*** *available for its harmonized / ubiquitous quintessence.* ***EU*** *– humanist education,. Education froms firstly the person;* ***SEG*** *– Educaţional space of Graciousness;* ***SE*** *from* ***SEG****-educational standarts/ norms of behaviour.* ***LA*** *from* ***LAG****– Free arbiter, capacity of self to self-arbitrary, to be aware of meanings through satisfaction of the continuing need for exceeding/self-exceeding.* ***C*** *– Cognition, culture, quality;* ***CEL*** *– Culture of linguistic education;* ***CELA*** *– Culture of*

literary-artistic education; ***EU/CEL/A*** *– the other, retrovision of inverted self seen with „another eye”.* ***Self Recording into a whole****.*

Organizational Chart N. 2



7.

GRACIOUSNESS, THE RIGHT PRINCIPLE OF GENERAL AXIOLOGY, expresses the integration of personality as an individualized value into the context of universal values through respecting the following exigencies:

I. The possibility of return to the human essence:

- True comprehension of beginnings of becoming: “Knowing yourself is the beginning of all wisdom” Aristotle;
- Mind and revelation/relaxation of continuity of human becoming;
- Free arbiter – the basic criteria of what is achieved.

II. The possibility of creative self-determination:

- Unity – activity/play – feast of the soul;
- Personality who creates cultural values – absolute value;

- Plenary presence of beauty and didactic harmony;
- Beauty – the highest final value as a vital part of creation.

III. The possibility of continuous formation:

- Freedom – continuous process of the approval of the Self: will – motivation – goal;
- Alignment to qualitative education management;
- Originality of forms of interpretation of Solomon Proverbs in cognition of wisdom/ Bible.

IV. The right for point of view

- Open and free expression of opinion, respecting moral laws;
- Acknowledgement the personality as the fact of respecting the other's freedom;
- Stimulation/encouraging the outlet from guardianship: "Have the courage to use your own mind"/ I. Kant;
- Acceptance the extraordinary intellectual culture: right, common interest, credit;

V. The possibility of self-regulation:

- "The limit of the possibility to be free is inability to common freedom"/ I. Kant;
- Respecting the objectivity as the common condition of open communication and harmonization of contradictions;
- Confession of mistakes – the sign of special wisdom in promotion of virtues;
- Management of self-regulation abilities on the stage of formation.

VI. The possibility to align with common ideal of life;

- Focusing on common life ideal;
- Human as a phenomenon is not born as formed personality, but he becomes a personality;
- Align with national- Christian and general human values; embodiment into life of the main rules of "small game – big game".

VII. The possibility of sublimation through spirituality:

- Respecting the scientific truth reporting on moral traditions;
- Adequate attitude to three-dimensionality: way/movement, space, time;
- Respecting the special psycho-intellectual structure of nation that you represent;
- Recognition of the language of the country you live in as the highest value of open spirituality on the way to universality.

VIII. The possibility of recognition the personality as the global value:

- Individuality and identity as means and goal of social integration;
- Citizen – means and purpose of social integration;

- Stimulation love towards life, eliminating pressing and violation;
- Solidarity and fair economic order;
- Gender equality.

IX. The possibility of re-consigning the Graciousness as an universal axiological principle:

- Knowing how to get into graces of valuable time;
- Knowing how to get into graces of own epistemic configurations;
- Knowing how to raise self-authenticity on global axiological level of becoming;
- Knowing how to love your neighbor as yourself;
- Knowing how to be resourceful;
- Knowing how to continuously connect the level of competitiveness;
- Knowing how to get into graces of valuable space – to develop yourself as an integral value;
- Knowing how to get into graces of *the nine possibilities* of the general axiological principle of Graciousness;
- Knowing to pass the barriers of strategic framework at all levels of education and to integrate into the space of social activity;
- Knowing how to wear with dignity the Divine – Human Mandate;

All of the exigencies of integrator principle of Graciousness, having as base an upright support, individualized by steps/exigencies, targets in fund the same finality – aspirations towards eternity, beauty, where, on the path of norming realizations, everybody will be encouraged.

8. HUMAN, THE HORIZON OF MULTIPLE GRACES

Mupltiple graces configure the epistemic model of fenomenology of the human intellect reporting on the nine possibilities of the *Graciousness as the right principle of the general axiology*.

Knowing how to get into the space of graces of valuable time urges one of the competences of muptiple graces of our existence. Besides, this explication in our case has the competitive facet: *Knowing how to be resourseful* (in time) on the level of the possibility *Knowing how to wear with dignity the divine mandate – Human, right horizon of complex cognition*. Or, the path of breaking the limits of the historic time, the mysterious way of divinity – that is the one of *Graciousness as the right principle of general axiology*, mostly beginning from the school has to start with the „eternal return to the square of hypotenuse" as completing requirement, the „return of duality to essence". Each of these two formulas of our challenges on the course of discounting the truth *of cognition, in a way follows the purpose of undiscovered completions. In the first position Human, horizon of mysteries, subject/object of education is stimulated by/for this course forward the temptation/dicsovering/cognition the multiple facets of its inner depths. In the second position Human, horizon of Great Virtues, the same subject/object of education is provoced from/through its awareness to integralization/ skilfully handling its multiple facets/completing possibilities into inventive products.* In any case *we strongly argue that the advantages of optimization the cognition proces are, for sure, not in outdated idolizing of these initiations, even nice ones,(perfection was always performed/is posted indefinitely), but especially in*

assuming a great responsibility , a big competitive risc (mostly the competitivity with yourself) initiated by modern didactics to find plausible version of perpetual excellence (of self and of the majority) on the scale of virtual completions. We have to keep in mind that the process of durable cognition is based on competitivity, on competence: Knowing how to learn. By R. W. Emerson, *its impossible to speak about learning process untill the pupil/student is brought to the same state of spirit like yours or to the level of same principles that you have. There is a transfusion. He becomes You and You become He.* This interpretation seems to be the Divine one, that comes down exactly from the space of Graciousness – space of our bitter searchings.

Or in our vocational interpretations the optimal path of humanization is the one of interaction *Retroaction - Graciousness* or *Graciousness – Retroaction*; the defining function as the right modern educational technologie, being the one of regulation the cause through effect, and the one of Graciousness – as one of reconstruction of an environment/global space of human sensibilization. The primacy of competitiveness on the path of completion belongs to Graciousness as the right general axiological principle. The primary function of harmonization, of interaction of all of the values in the „whole personality"(T.Callo); the path of cognition being the one of motivational harmonization: intrinsic and extrinsic. Retroaction and Graciousness are two completing facets of this complex process of self-knowledge.

In this effect Graciousness as the right general axiologic principle of humanization of the cognition process has a complex retroactive character reporting the fact that the bases of interaction between cognition and morality, cognition and intelligence, cognition and creativity, cognition and comunication, cognition and metacognition, are founded.

The coordinates of the *ascension Human, horizon of mysteries – Human, horizon of great virtues* serve three biblical phrases:

1. *God created the man in his own image and likeness;*
2. *In the beginning was the Word, and the Word was with God, and the Word was God.*
3. *Love your neighbour as yourself.*

9. PERSPECTIVES OF ACADEMIC INTERRELATIONS

„Creativity is motivated by human tendence of self-realization, the necessity to manifest full potential of the horizon of cognition. The impuls of creativity appears in context of self-evaluation than that of preoccupation to the evaluation made by others" By Carl Rogers(1954*)* Thus in this line of humanization self evaluation is certified as the right remedy to stimulate / encourage the creativity. Graciousness as retroactive mobilizing process allocates this stimulatory chance during *the hours of free arbiter* through which the individual makes avaliable the possibility of self-awareness of his own vocation of preoccupations of connection of his actantial demarche to the exigencies of principle of human dignity rendered on concrete motivations. In this effect, we speak about the opportune respect of hypothesis of dual motivation (intrinsic and extrinsic) of Amabile (1983) in (4. p.91). From this point of view lessons of free arbiter can be identified as lessons of hiring a specific relevant psicho-intelectual comfort, awareness of self-responsibility in positioning of new trials on some evolutionary segment, free hiring in space of authenticity and cognition the great possibilities. Especially during these classes Graciousness is certified as the right starting point for multiple graces and appropriate access to multiple intelligences.

By R. Oschse (1990*) „If the intelligence means selecting and shaping the circumstances, it is creativity (4. p.104*). Adapting to a new working environment is also a condition of creativity. Creativity in case of adaptation is favored by calibration the requirements on front of the jointly interested environment. One environment based on valuable principles creates another values. And the purported value will always know how to work for recompliance an environment, favorable for itself. The possibility to choose, in a great measure, is due to the possibility of obtaining and handling the freedom. But full liberty of creation is possible through achieving a diverse horizon/space of cognition and communication. Or, *to know* means *to create*, to communicate, to sensitize. Human creates from the necessity to communicate: from the inner impuls to supplement a goal of cognition reported on a kind of communication / externalization of the self towards completeness. Paraphrasing Tudor Vianu, *„a personality communicates and speaks with himself"*, through the product of his creation. On the path of Graciousness these completing facets *comunication and creativity* are considered to be true omnipresent motivations. On the level of Graciousness optimization is the process of interaction: cognition – metacognition.

Multiple graces – the nine possibilities/exigences of graciuosness – are related to integral valueing of self-fulfillment space. ***Knowing how to wear with dignity the Divine Mandate.*** They involve interaction of cognition facets in plummet of teleological struggles: *purpose, means, principle, ideal* as the right support of values, serving the essense of seed that we have.

Multiple graces draw their start from Ancient Rome, by DEX of romanian language, through embodiments of the three goddesses of beauty, wisdom, love, kindness – continued by us through our seed and Christianity, that protect us: love, faith, hope ... honesty, justice, grace, respect, loyalty, esteem, intelligence...

Multiple intelligences are a various optimum path of resignation of multiple graces (materialization of cognitive objectives into finalities) reached the crossroads cognition / metagognition - *To be resoursefull* in solving a/some difficuilt problems, related to diverse active areas - are virtual competitive events.

The hypotenuse of the Whole Square / space of axiological resignations means the proximal / intermediate zone of interactive parts: multiple graces – multiple intelligences. The finality of optimal monitorizations is thus manifesting as integral one: ***Knowing how to orient into graces of valuable time, namely*** *Knowing how to be resoursefull since knowing how to wear with dignity the Divine Mandate - Human.*

Getting into the good graces of valuable time also means getting into the graces of total cognition; penetration/interpenetration into the depth of stylistic matrix of inner nature – facets of the mystery of interactional depths from the beginnings hither; proscribed insignia of its own virtuosity towards challenges of full realization.

The key to deciphering the enigma of completing multiple facets: *Man, horizon of complete cognition, otherwise* is in posession of each individual, being offered in the school at all levels at the subject of each academic discipline separately and all together in the context of disciplinarity, interdisciplinarity, transdisciplinarity.

The go-off is occasioned in the beginning of each academic year inside of each discipline during the *classes of Graciousness* named also *Introduction into studying the self-fulfillment during the given course*. The puprose of this initiation is basic one: To help the individual to fully engage in the work of self-discovery (both within and outside of the classroom), of diverse alterations on the way of great vitrues.

On the level of conversion of multiple intelligences into competences, Graciousness as principle and process of axiologic hiring, performs its functial potentialities (act of grace and its effect/outcome) in the hypostasis of means and purpose of full realizations. As means it is on the level of multiple graces, as a purpose it is a valuable finality - multiple graces - Beauty, Love, Intelligences.

By Gardner Intelligence has a nominated character. By Hainaut, it has syncretic character, pendulating between nominating and challenge for action. By us – it has a vocational character of Graciousness.

Multiple facets, in an optimum processual view, assemble the priority issues of a plausible educational approach of arranging the intended purpose: *framing into valuable space.* Between multiple facets of optimization the educational demarch on the general level of systematic adjustment *cause - effect* we can enumerate:

Multiple facets of cognition assemble academic disciplines in educational sciences - philosophy of education, physiology, pedagogy, psychology, biology, physics, logic, mathematics, metaphysics, chemistry, linguistics, ethics/aesthetics, art theories of literary and artistic knowledge, the interpretative art, the art of communication / interrelation of managerial arts in general;

1. ***Multiple graces:*** valuable interpretative interaction based on the nine possibilities of the general axiological principle;

2. ***Multiple intelligences*** - vocational preoccupations vis-a-vis the eight-nine types of multiple intelligences, formulated by Hovard Gardner (1983,1993,1995): linguistic, logical-mathematical, spatial, musical, interpersonal, intrapersonal (achieving a high level of self-awareness), corporal-kinesthetic, naturalist;

3. ***Multiple facets of creativity*** on the level of case study: *hypothesis of duble motivation: intrinsic and extrinsic vis-a-vis the self-evaluation* as the right triple epistemological interaction: the locus of creator, creator roles, creator's product (**4, p.127).** In this context we say that *intrinsic motivation* subdued to exercises stimulates personality's pleasure to learn, to increasingly penetrate the world of knowledge and inevitable complicity for founding an environment of *self-evaluation/self-improvement;* that's why a separate role is given to *the classes of free arbiter*, where divergent thinking will result, firstly, into searching new information, new informational sources of extrapolation the truth; and then through the controversy (convergence) follows analysis and synthesis of „inverted world" - valuable contesting.

The syntagma *Human, horizon of integral cognition* overlaps so varied positioning horizon of investigational framework on optimal benefits of multiple case study: 1. Polyfacetical integrity 2. Polarized interaction of identity; 3. Optimal Structuring: knowledge, purpose, impulse. 4. Valuable durability.

In our educational approach "*To know how to get into the graces of valuable time*", *the Ego* researcher/creator becomes the epicenter of optimal employment of the substitution of multiple regulatory functions.

According to us, the multiple responsibilities of the Ego are:

- Knowing own possibilities (Strengths);
- Knowing the promising mystery of own inwardness;
- Challlenging modalities of productive integration into the field of social activities;
- Harmonization the differences;

- Replenishment of interiorizations;
- Deliberating awareness of own completions on the way to becoming;
- Solving the problems: cause - effect;
- Assuming the risk to competitiveness;
- Increasing personal responsibility;
- Integration into valuable time and space;
- Ascension by spirituality;
- Connection to the ideal of social humanization.

Graciousness as the principle of general axiology expresses the condition of self-realization through reason and revelation.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

AN EDUCATION PROPOSAL BASED ON ICT TECHNOLOGIES AND ACTIVE DIDACTIC METHODOLOGIES

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Abstract

Students should have the knowledge of the current technological situation that allows them to be integrated without difficulty in the industrial world, and on the other hand, they should have capacity to adapt to the constant changes that take place in the industry.

In this paper, a combination of more dynamic and active methodologies are proposed, applying didactic techniques as case method, implementation of real (simplified) projects and group work with digital tablets and simulators, promoting a bigger approach to the real engineering world.

The application of the mentioned techniques pursues to develop in the students the abilities that they will need in their professional future as "to know how to make" and "to learn how to learn" using the new technologies, developing the required professional skills.

Finally, in order to complete the formation of the engineer the following aspects are considered: guarantee some general basic knowledge, improve the student's effort in the practical aspects, train the student to work in group, and to achieve that the student develops the capacity of adaptation to new challenges.

Key words: *ICT application in education, educational innovation multidisciplinary project, innovation in higher teaching education, active didactic methodologies*

1. INTRODUCTION

The continuous evolution of the computer engineering in the industry, with new applications and challenges, and the kind of students that the current industry requires have made necessary to stimulate in our students the aptitudes that allow to facilitate their adaptation to this environment that leans on fundamentally the assimilation of very practical contents (Capella, 2012).

Therefore, on the one hand the students should have the knowledge of the current technological situation that allows them the integration without difficulty in the industrial world, and for other, to have the capacity to adapt successfully to the constant changes that take place in the Industrial Informatics sector.

In this way, the problems with the traditional teaching methodologies, as for example too theoretical teachings and high abandonment rates, together with the high number of students, will be tried to solve with a methodological renovation based on a combination of active didactic techniques and applying the information and communication technologies (see Table 1). An important piece is the project development that consists in simplified real problems that the student must solve and implement in teams and present them in public to be able to overcome the subject.

2. PROPOSED ACTIVE DIDACTIC METHODOLOGIES

To achieve the explained objectives, focused in the obtaining of the capacities and necessary abilities for the future professional exercise, it becomes necessary the application of methodologies (Cano, 2006) that allow guaranteeing their attainment (see Fig.1). For this reason, in the design of the subject, activities guided to the student's bigger active participation have been carried out, in order to the pupil generates conceptual schemes and doesn't inherit them of the professor, increasing the critical spirit of the students that will allow to develop the described abilities (Smith, 2001).

The innovation project implies a restructuring of the organization and methodology of the course, and its basic objectives are:

- Assure the theory-practice integration.
- Rationalize the learning assessment process.
- Provide an active and personalized teaching.
- Foment the critical spirit of the pupil, as well as their work capacity in group.
- Relate the teaching with the industrial reality and the socioeconomic environment.
- To give more importance to the formation than to the information, that is to say, “know how to make” than only “know”.
- Center the student's attention in the basic concepts of the different disciplines.

For the achievement of the objectives three organizational pillars settle down:
Teaching in classroom-laboratory: allows full theory and practice integration.

- Multidisciplinary laboratory: rebounds in a bigger interconnection between the subjects and enhances the global vision in the pupil.

For the correct development of the experience, two multidisciplinary laboratories that have 20 work places have been organized, with an occupation of three students per place. Each place consists of a group of basic instruments, used in a common way in all the disciplines of each implied specialty (personal computer, power source, functions generator, digital multimeter, analog-digital oscilloscope, logical analyzer, etc.), and a collection of more specific equipment for each discipline (trainers, acquisition cards, PID regulators, programmable robots, dc and ac motors, sensors of illumination, temperature, humidity, etc.)

The new technologies and cloud computing can enhance traditional methods of learning but cannot replace the human touch. Along with the advantages for these technologies in the learning process some researchers will bring up some of the disadvantages that might be carefully addressed and resolved with other didactic techniques (Koc, 2013).

ISSN 1313-2571, Published at: http://www.scientific-publications.net

Fig. 1. Proposed combination of didactic methodologies and ICT technologies.

Table 1. Advantages and characteristics of several applied techniques.

Advantages	**Characteristics**
Case method in lab: The student faces a concrete problem –case– that describes a real situation of the professional life	• The cases should outline a real situation. They will be extracted of real situations of the current industry. • The cases should be clear and comprehensible. • The cases should not suggest solutions. • The selected cases should facilitate the participation and the critical spirit of the students. • The time for the discussion and taking of decisions it should be limited.

ISSN 1313-2571, Published at: http://www.scientific-publications.net

Real projects development: learning process based on the student own creativity and that allows to learn how to solve high order real problems	• Allows to develop the creativity. • Connects the theory and its application. • Integrates diverse knowledge. • Allows to relate matters and subjects. • Helps to achieve a more global formation • Motivates the student proposing real cases.
Virtual tutoring: provide students anytime, anywhere, assistance and guidance in the learning process	• Interactive (professor-students) work meetings • Foments the "learn to learn" and that the students acquire a wider vision of the disciplines. • Consolidate the students knowledge.

3. AUTONOMOUS LEARNING STRATEGY

In the first place, it is necessary to elaborate a study guide where the learning that should be achieved is presented to the student. These guides should be composed in first place by an introduction, where it is indicated to the student the objective that is pursued, the importance of the topic, their connection with other topics, etc. The following part consists on the activities plan, where some very concrete norms about the activities that should carry out the student will be exposed, as well as the time that should dedicate to each one of them as minimum, etc. Finally, the information sources for the study (bibliography) should be referenced.

The pupil proceeds to carry out the study once the professor distributes or exposes the study guide. First the student will analyze the steps to follow and should create a global vision, passing later on to carry out the learning of the content, reading the facilitated texts and bibliography, solving the suitable exercises and problems, etc. In this manner, the guided study is a teaching-learning process that embraces a series of logical steps and that tries to get objectives such as understanding, problems resolution and acquisition of abilities.

This technique favors the relationship professor-student at the same time that increases the student's activity in class, developing their responsibility in the work and helping them to discover for itself. It also facilitates that the student goes assimilating a study methodology. Finally, this technique facilitates the continuous evaluation that is proposed as well as and the student self-evaluation.

With this technique, the students will learn the basic knowledge of the different themes. To achieve it, the basic bibliography of each chapter will be provided.

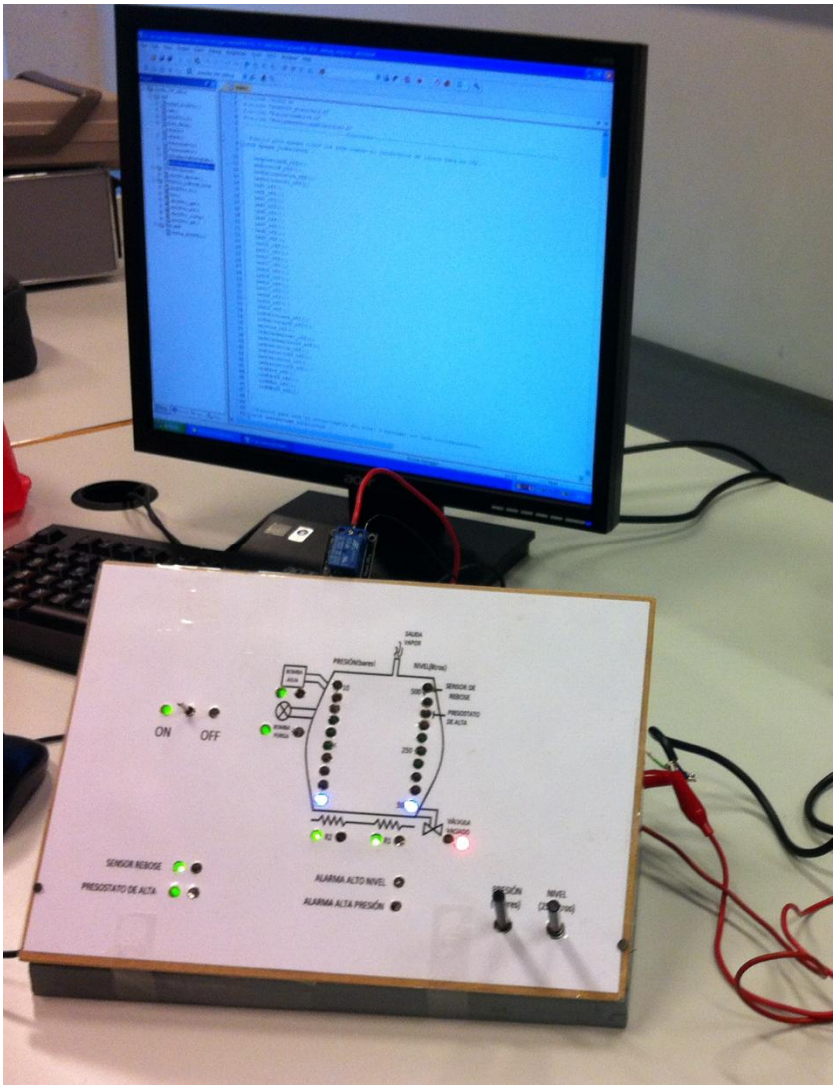

Fig. 2. Project developed by students in the laboratory.

4. CASE METHOD TECHNIQUE

This technique contributes to bring near the teaching-learning process to real situations that is a learning technique where the student faces before the description of a specific situation that outlines a problem that must be understood, valued and solved by a group of people, through a discussion process.

The student faces a concrete problem –case– that describes a real situation of the professional life, and hi should be able to analyze a series of facts and to arrive to a reasoned solution through a discussion process in small work groups.

It is therefore a cooperative learning technique that foments the student's participation and develops the activity and the critical spirit, preparing the student to take decisions, and teaching him to defend their arguments and to contrast them with the opinions of the rest of the group components.

Designing cases it will be kept in mind the following guidelines:

- The cases should be clear and comprehensible.
- The selected cases should facilitate the participation and the critical spirit of the students.
- The description of problematic situations should be based on a theoretical foundation.
- The cases should outline a real situation. They will be extracted of real situations of the current industry.
- The main and secondary aspects of the information should be mingled.
- The time for the discussion and taking of decisions it should be limited.

This didactic resource is an active technique, and therefore centered fundamentally in the students work, but the professor activity is very important. The professor should expose the case with clarity, and should have ability in raising important points that help the group in the proposed case analysis. Also, the professor should ask questions when the participants forget important aspects, or when confused conclusions that the rest of the class does not question appear, as well as to relate the results of the case with the theory that sustains it.

This technique develops the analysis capacity and reasoning, improves the work in group and favors the motivation from the student when feeling active agent of their own learning. The student also learns how to structure complex problems developing synthesis capacity, and acquires certain practical experience when facing similar situations to those that are confronted in the engineering world, obtaining a integral formation. In definitive this technique allows the students to “learn to learn”, that is to say, to discover, to identify and to interpret the problems; to look for solutions, to foresee the obstacles to these solutions and the possible remedies, to conceptualize and to deduce principles of the real situations analysis.

The cases that are proposed have been selected following an educational approach that allows to structure the practical contents (Pun, 2012). In this manner, cases related with the different network protocols levels are presented, and later on the students will have to implement their case solution in the mini-project. The discussion and final proposal of each group will be implemented in their mini-project, in this way the students will experiment a real way the advantages and inconveniences that have been debated in the first part (case study).

5. TUTORED PROJECT BASED LEARNING

The student should learn to design and develop real systems (Fig. 2), where a computer system will be capable of controlling a process by means of the use of sensors and actuators through process interface, at the same time the operator can interact with the system through the user interface.

With this activity the student reaches some general basic knowledge and make an effort in the practical aspects, foster abilities such as the work in group (Smith, 2001), capacity of adaptation to new challenges, etc.

The projects consist of simplified real problems that the students should solve in a team of three students, with the tools and knowledge provided in the subject involved in the Educational Innovation Project. The proposed problems have not been solved in class, so it represents a challenge for their members.

Each student team should develop a system that integrates the computer equipped with an acquisition data card with control software developed by the student, analog and digital circuitry. The miniproject will be exposed to a jury and it will be necessary to present a report to each one of the implied subjects. The project evaluation will be common to the Educational Innovation Project involved disciplines and it will be part of the final mark (Capella, 2011).

To allow the complexity of the project doesn't obscure the true purposes, this should be simple and to embrace all the possible necessities. The analysis of the requirements is carried out in order to include in the project the key aspects of the subject and maintain acceptable dimension for the teams.

The resolution focus that can be given to the projects depends much of the student's previous knowledge, restricting in most of the cases the techniques and tools that can be used, because the purposes of the subject could be confused with the explanation of a certain tool or formal Industrial Informatics systems design technique. In our particular case, the student has the enough knowledge of analog and digital electronics and very basic knowledge of programming.

Starting from the previous knowledge of the students and with the objective that they learn how to design and develop a project with an appropriate user and process interfaces, non formal “top-down” design methodologies are used, insisting in the “modular decomposition” and “information hiding” heuristic rules.

After planning and designing the computer system a modular decomposition representing the application skeleton is performed.

Each module will be refined and enlarged so that the student uses, in a practical manner, the knowledge that he acquires in the course.

Finally, the projects development contributes with advantages such as the work in team development, to learn how to edit technical documentation, to present and discuss ideas, etc. contributing everything to a better preparation to the labor market.

6. CONCLUSION

This proposal has improved fundamental aspects as the student's motivation and the interaction with the students, combining different active methodologies. The projects development, also offers to the student a global view of the problem. This learning technique can be applicable to many technical disciplines.

A special effort has been made in the assessment techniques design in order to induce the desired aptitudes and abilities, being the real project development a very important tool.

The proposed strategy allows fomenting knowledge, abilities, attitudes and skills difficult to achieve by means of the classic teaching approach, obtaining very interesting learning results during their application in our degrees.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

CONTINUING PROFESSIONAL DEVELOPMENT: A WORK PLACEMENT OPPORTUNITY FOR YOUNG GRADUATES

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Abstract

The paper presents a project developed from a perspective of lifelong learning, proposing strategies and opportunities for empowerment, through the activation of a professional project in continuous development (Continuing Professional Development-CPD). The methodological elements of this particular educational path are characterized by centred on the learner, for a project dimension in a lifelong learning perspective, referring to professional identity and, in addition, strongly rooted in context. The CPD model supports the acquisition of skills for mapping and problem solving, implementation and testing of innovative content. It encourages a reflective attitude that leads the young to observe their actions in the context of work and supports the ability to build relationships of trust that can strengthen the sense of organizational citizenship.

Key words: *CPD, lifelong learning, young people, placement, human capital*

1. INTRODUCTION

The Institute of Personnel and Development (IPD) of the United Kingdom defines CPD as a constant keeping up-to-date (*updating*) of the professional knowledge throughout the entire working life through systematic, informal or self-directed learning models.

A further definition, affirmed by the Royal Town Planning Institute and confirmed by the CPD Certification Service of London, indicates CPD as *"the systematic maintenance, improvement and broadening of knowledge and the development of personal qualities necessary for the execution of professional and technical duties throughout the practitioner's working life"* (Peel, 2005). The definition emphasizes CPD as s systematic process within the professional development in order to maintain, increase and develop knowledge, skills and personal qualities throughout one's working life. The key features can be summarized in four expressions: continuity through the whole working life, professional requirements, personal qualities, systematic nature of the process.

The approach to CPD requires:

– the mutual linking between organisational strategies and individual needs;

– the view of human resource management as an investment and not simply as a cost;

– the enhancement of learning on the job, taking care of the effective transfer of learning in the workplace;

– the planning and designing of training activities at different levels of formality (Eraut, 2000) to support learning processes that correspond to the concept of Personal Development Plans (PDPs).

The key features of the definition which distinguish the CPD are represented by the continuity of learning throughout the working life, the maintenance of high-level quality and competence of professionalism, the development of knowledge, skills and personal qualities, the planning that ensures a systematic process. These characteristics allow CPD to assume a fundamental role to facilitate the accreditation process of professionals and to support the personal professional development and of the group.

2. APPROACHES TO CONTINUING PROFESSIONAL DEVELOPMENT

The application of CPD can have three different approaches (Bonometti, 2013) that represent different levels of formalization of the process.

The first approach, defined “certified”, has a “standardized” structure with the designing of the process according to the rules and the culture of a specific profession. In fact, the scientific community and the "professional group" can determine the development-phases and the steps of continuing updating which are essential to ensure a certain level of professionalism. The development of the process and the sharing agreement of the updating according to the rules guarantee public accreditation to the professional (in some cases with legal value). In such a case, the process of professional development (CPD) becomes a sort of obligation while carrying out one’s profession and the lack of respect for the operational guidelines may produce sanctions by the "professional group". The risk that may occur with this approach is to confine people exclusively within basic routine activities, asking them to perform a standard of disciplinary skills, rather than producing new ones and going beyond. It becomes a kind of pre-formulated module of development which will give the necessary certification at the end. In the international healthcare sector all professional in medicine and nursing follow a learning program to ensure the maintenance and development of the professional skills, just called CPD. A comparative study, Peck et al. (2000), compares the use of CPD in Canada, United States, Europe and Australia and highlights the common elements and the differences. Among these common elements stand out:

a) the organization of CPD in credits, where the credits corresponds to a certain amount of learning hours,

b) the learning activities classified into three categories: *live* or outdoor activities (courses, seminars, conferences) which are external to all the workplace activities; *internal activities* that are developed starting from concrete situations, practice (case study, peer counseling, interprofessional knowledge exchange), *enduring*, learning proposals based on the creation of lasting material (print, database, web based materials),

c) a greater commitment in situations where a certification is compulsory.

A second approach can be defined "organized", in other words it is characterized by the explicit planning of a consistent learning program in line with the indications given by the relevant organizational context or in some cases by the scientific community. Compared to the previous path it is not connected to legal aspects and certifications. In this case, CPD is closely linked to the strategies of the Human Resource Development (HRD) and, converging individual needs and position requirements, a skill development process is defined in line with the strategies and the expectations of the belonging organization. A particular attention is paid to the transfer of knowledge in the *workplace* and at the same time the workplace must provide continuing learning opportunities to the people. The characteristic of this second approach is given by the close correlation between personal professional expectations and business development prospects. In the organization an effective *people strategy*, a strategic thinking

applied to the development of human resources in line with the organizational strategies is put into practice, in which CPD can be considered a tool in supporting management and professional development with an eye to the future. This option is pursued by the Human Resource Development in order to encourage the professional integration process and role integration. Some researches (Lammintakanen & Kivinen, 2012) show that the practice of HRD is not always aligned with the original features of CPD where the priority shall be given to the benefits of the individual and professional development.

Finally, the third approach, called "personalized", presents CPD as an opportunity for individual growth which is less bounded to organizational needs but, nevertheless, related to a specific working context. Compared to the previous approaches, this one could seem less systematic and continuing, leaving more possibilities to the participant to design the process and to redefine the objectives to achieve. This method finds more application possibilities during the internship of post-graduate participants, where the practitioner is facing the professional integration and role integration with the support of a project designed by a third party in addition to the company and the employee. This process requires a definition of the own initial competences and the planning of the learning process with a possible redesign of the module in case of need, in order to respond in an appropriate way to the expectations of the participant and the organizational context. The development of a personalized CPD implies as specific characteristic the presence of a third party who is involved in the negotiation between participant and company, in order that the skill development process allows sufficient time for the training and not just the time convenient to the organization. The places with similar characteristics which carry out this function between worker and organization are the placement services of the universities or colleges, the employment centres of the provinces/districts, the vocational education centres.

The three different approaches, however, share some fundamental features, such as:

a) formal and informal learning opportunities;

b) the opportunity to activate reflective practices and to enhance learning from experience;

c) documentation of the improvements through tools such as *portfolio*;

d) reflections on the performances with peers and experts.

In particular, the reflective practices have revolutionized the models of adult learning, emphasizing the relationship between theory and practice. Within this relationship CPD becomes a central learning method that adopts techniques connected to research-action, in order to develop new knowledge and to overcome the contradictions that exist in the real working contexts.

3. THE PILLARS OF CONTINUING PROFESSIONAL DEVELOPMENT

A project of continuing professional development (CPD) is considered a learning action during the work placement and a socialization process with the professional context and role when a real and proper apprenticeship is provided that turns knowledge into competencies. During this period the new entrants, through a continuing internship or during the professional integration, activate their knowledge and skills linking them to the specific working context in order to develop the appropriate skills requested by the daily activities in the workplace. It is a challenging time where the willingness to learn of the employees and the commitment of the company to provide learning opportunities are at the top, aiming at the achievement of the fixed objectives.

The Italian experience presents the opportunity of a specific work contract called "apprenticeship" which has the characteristic of a work contract with a work-based learning program aimed at the work placement of young people by obtaining a profession and/or a specific professionalism. It is a "learning contract" which alternatively combines working periods and training periods that take place inside the company or externally in specialized training centres.

The contract gives the opportunity to the company to hire and train the new workforce at favourable labour costs. Having these advantages, the employer is obliged to provide professional training to the apprentice and to pay him a salary for the work. There are three types of apprenticeship contract:

a) Training apprenticeship for diploma and professional qualification, addressed to young people aged between 15 and 25 years. It allows to complete the compulsory education and to fulfil the right-duty to education and training till 18 years. It is a chance to achieve a qualification: a qualification as professional operator after three years and/or a professional diploma at the end of the fourth year.

b) Professional apprenticeship, designed for young people aged 18 (or 17) to 29, in order to achieve one of the professional qualifications included in the collective agreements, aimed at increasing basic, transverse and professional skills.

c) Advanced training and research apprenticeship for young people aged 18 (or 17) to 29. It has different objectives, such as allowing the access to a company and at the same time achieving a higher qualification: secondary school diploma, higher technical specialization, university degree (bachelor, master and PhD), higher qualification.

To make all this happen some essential pedagogical-didactical approaches are needed to favour the start of the learning / teaching processes.

3.1. Workplace Learning and Learning Environment

The first requisite is considering the workplace as an opportunity of *Workplace Learning*. The workplace is not only the place where intellectual or practical activities are carried out but also the place site with continuing learning opportunities. This means that the range of activities that take place, daily, in the workplace provide learning opportunities which are supported by actions that Eraut (2000) lists as follows:

– learning from doing routine work activities;

– learning *on the job* through a learning plan with the involvement of a certain variety of roles connected to the own role;

– informal and occasional learning through meetings with other workers;

– both informal and formal learning through the reflection on artefacts in the workplace.

This means that people, the work activities, the materials and the equipment all become learning resources.

The change of the workplace culture leads to another requisite connected with the Workplace Learning which is the change of the work organization that must become an adequate learning environment (Billet, 2004). The organized learning takes place within a structured environment so that every activity and every place can provide learning and changing opportunities.

For workplace learning it is necessary to take into account the combination of the culture, the professional stories and the work organization that will at least create two types of learning environments, called *"expansive"* or *"restrictive" learning environment* (Ibidem).

The analysis conducted by A. Fuller, L. Unwin (2004) leads to identify a list of factors that shape the environment according to an *Expansive Learning* approach. This list is based on the antinomy between *"expansive-restrictive"* which, in the opinion of the authors, allows a better understanding of the actions to be adopted to define a learning environment.

The comparison between the two methods emphasizes the different actions that will be needed to create the learning environment. Between these two extremes, actually in the *continuum* are identified the most effective practices for the different organizational contexts. Focusing on the *"expansive"* approach the above mentioned research has identified a certain number of actions that allow the realization of an *Expansive Learning Environment.*

Among them, the most significant are: the participation and commitment to diverse communities of practice in order to favour the exchange of different competencies and skills. The attention is also paid to the realized learning experiences (or to realize) in other organizational contexts, overcoming the insurmountable "fear of being copied". This mental approach, if related to a genuine professional interest, supports and strengthens the organizational identity.

3.2. Peer Learning and Tutoring

Another requisite for the start of CPD is given by what Eraut defines *learning from others* through peer learning (peer to peer) as well as learning from experts or significant others (tutoring). In a research conducted by M. Eraut (2007), that evidences some approaches that support *Expansive Learning Environment* (Fuller & Unwin, 2004), the persons interviewed affirm that "learning from others" in the working context represents one of the most significant methods for professional development.

This approach can be placed, according to Eraut, in the *continuum* where on one side there is the individual dimension and on the other the organizational dimension. Referred to the individual one, the fulcrum of "learning from others" is the importance of the tacit knowledge of everyone to share daily with the colleagues while carrying out one's profession. On the opposite side of the continuum in the organizational dimension the reference point of learning is mainly based on "propositions and written documents" which are progressively more formalized. According to Eraut, "the learning process started by the worker moves within this *continuum* in accordance with some central reference points: the own personal dispositions and the manager's support" (Ibidem, p. 36). In other words, the effectiveness of a learning environment that gives value to the support and mutual help is fully implemented if it is hold up, on one hand, by the personal motivation and the willingness to a social participation and, on the other hand, by the workplace configuration and the organizational culture that encourages and stimulates co-participation and collaboration.

The importance of the personal dimension for the creation of working environments has also been investigated by A. D. Ellinger and M. Cseh (2007), who identified a certain number of factors, such as behaviour and communication that facilitate the learning process of the participants. The authors indicate the listed factors as behaviours that experts can adopt to facilitate the learning, mentioning managers and responsible persons in charge, by improving confronting techniques and forms of co-participation starting from daily experiences.

The main abilities of the facilitators are the following:

– listening;

– observing,

– providing feedback;

– questioning (also in the sense of investigating, for instance: What do you think to do? Why?)

– supporting the confrontation (finding meaning and justification);

– supporting the self-analysis of the issues and processes *step by step*;

– showing the necessity of the confrontation with the experts;

– sharing materials and resources;

– using examples;

– removing handicaps;

– broadening perspectives;

– focusing on images and templates.

The effectiveness of these factors depends on the fulfilment of two aspects related to the organizational culture. The first cultural factor to mention is the firm commitment of the managers to lifelong learning that they personally manifest, in other words, they act as model for others, supporting and encouraging the professional development of all employees. The second cultural factor that the organization must pursue is the recognition of the training activities of the units as a fundamental aim for all the staff. The recognition of the value of learning is also emphasized by the knowledge sharing through informal and formal activities (Ibidem, pages 445-446).

Further researches on the use of CPD in the training of social care staff (P. Sobiechowska, & M. Maisch, 2007) evidence the importance of the tutor's role as learning facilitator for a successful training. The tutoring role includes technical, professional and personal competencies therefore the tutor is not just a learning facilitator but he is also qualified with regard to the role that the participants have to achieve. It is a strategic role that promotes the autonomy of the participant, encourages learning from experience, supports self-reflection and at the same time, provides specific indications with regard to the expected competence development.

4. METHODOLOGICAL ASPECTS OF CPD

What the steps of a professional development process concerns we take some illustrative indications from the model provided by C. Abrutyn and L. Danielson and used by P.G. Rossi for the definition of portfolio (Rossi, 2005). The model consists of four stages/phases that represent the cycle of development of the portfolio according to a logic that doesn't limit an one-off application but with a regular procedure and method. The starting point is the model developed by Danielson and Abrutyn that articulates the process in four phases: a) *Collection*, defining the criteria to identify artifacts related to the objective and the participant; b) *Selection*, selecting the materials, specifying the criteria for the selection of the materials that meet the educational goals fixed for the portfolio c) *Reflection*, including reflections in each section of the portfolio and a global reflection; d) *Projection*, revising periodically materials and reflections on learning included in the portfolio to verify the achieved goals and those to achieve. The model is characterized by the integration of the four phases of the process. During the first phase it is decided how and from which source selecting the material, the second phase involves the selection of

the material, in the third phase reflection and self-assessment are activated, as well as in the fourth phase can be identified with the analysis of the achieved goals and the definition of the objectives to achieve.

These phases can be applied during the structuring phase of the CPD, broadening the perspective beyond the evaluation. In particular, the CPD process consists of 4 macro-phases (V. Cross, C. Liles, J. Conduit & J. Price, 2004) and it starts with an initial briefing that includes the period of time where tutor and trainee know each other, the contract agreement and the definition of the competency standards. The initial period is crucial for the prosecution of the process. It's the moment to develop a relationship built on trust and respect and to recognize the roles and the mutual commitments to achieve the goals.

This specific stage/phase provides for the *Educational Agreement* and the *Start* of the process with a look to the standards related to the role and the competences to achieve. These references will become central elements even during the intermediate and final evaluation.

Educational Agreement	Period of time where tutor and participant know each other and sign a learning contract (*Educational Agreement*). It's the moment to develop a relationship built on trust and respect, to recognize the roles and the mutual commitments to achieve the goals.	Briefing phase
Start	Collecting of internal and external material that allows the definition of the *competency standards* of the role. The material can be placed in a *personal folder* with all the material that will document the professional development.	

The second macro-phase, *Collection*, highlights the importance of the active role of the participant who has the commitment to record the significant events in his personal diary (log or blog) that may occur after the work placement. Since the CPD scheme is characterized by continuing learning the following phases can become cyclical and can be proposed after a certain time interval. The evidences recorded in the personal diary will refer to the first professional experiences, in case of newly hired or interns, or will mainly focus on critical events during the following training periods.

Personal log (Blog)	Recording the significant events related to the workplace (both positive and negative) aimed at the increase of practical experience and related to a certain period in the *personal diary*.	Collection
Inner contradiction and problems	Evidencing problems and contradictions or adopted good practices and connecting a representative object (*token)* to the event, integrating the material in the personal folder.	

ISSN 1313-2571, Published at: http://www.scientific-publications.net

The third macro-phase is defined *Selection* with the purpose of focusing the attention on specific events related to the professional experience which are significant in the sense of acquiring skills. In particular, it is meant to select some (for instance three) events among the ones reported in the personal diary where the trainee has carried out some activities relevant to his professional role. The next step (*Analysis*) requires the analysis of the selected material starting from the competency standards which were defined in the initial phase.

Selection	Selecting three particularly significant events from the list based on personal experiences and the priorities of the role.	Selection
Analysis	Identifying and reporting the facts *(evidences)* for each of these events that practically describe what happened.	

The macro-phase called *debriefing* is the moment where with the support of mediation and analysis tools a *critical reflection* on the performance is made. That moment represents the starting point of the effective learning process. The reflection on the performance, the definition of the analysis methods and the determination of the development goals represent the kick-off of the process that changes the competencies and plans the next phases. In this phase the materials are linked in a network in order to describe the change, a new knowledge, the attention towards the constituent elements of a task or work activity (Rossi e al. 2012).

Critical reflection	Analyzing activities with the support of mediation tools, such as concept maps, models of organizational analysis, flow charts and identifying the core problem of the critical issue. Searching for solutions, formulating the work activities to achieve and identifying areas to improve related to skills development.	Debriefing

Subsequently the critical reflection aims to identify areas of improvement, the problematic issues, the involved professional issues, the priorities and emergencies, converging towards a shared definition of the core problem. Through problem solving techniques, that help to perceive the discomfort and the symptoms, the real problem can be focused and the participant is invited to reflect upon the critical situations and the committed mistakes. Once identified the problem, the required working practices and the skills to achieve must be investigated. According to the method of *scaffolding*, the tutor (as well as the participant and his peer) supports the reflection with appropriate stimulus that help the understanding from another point of view, with more distance and a different knowledge not known to the participant up until that moment.

The process continues with the definition of the goal that focuses on the work activities to achieve and to become good practices in the workplace. At that point it is necessary to assess the required skills for the application of the new practices by identifying the sources, the offer and the activities that allow the evolution of knowledge.

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The phase at the end of the process starts off the cyclical process of *project work*. This tool allows the planning of learning activities, starting from the working activities to achieve and the skills that are considered necessary. The articulation of project work highlights the correlation between the detected problem and new expected working activities, also in terms of monitoring systems.

Project work	Defining the project's objective and goals in terms of learning and planning of the *project work*. Assessing the resources in terms of skills, sources, social *network*. Planning the schedule and the rate of efficiency.	Planning

The a.m. phases are the result of the interlacing of the methods of reflective practice, of the learning from and through experience and of the planning of changes in the working context. In CPD these factors are well documented with the help of many tools that support the learning process.

The monitoring of the learning projects becomes an opportunity to verify the steps taken during the execution of the project, to modify the schedule in case of insuperable problems and to set new goals in the continuing professional development.

5. CONCLUSIONS. AN APPLICATION AT UNIVERSITY OF MOLISE

In the project financed both by the Italian ministry of labour as by the Molise Region, called "Piano Integrato Giovani Molise (Molise Integrated Plan for young people) - approved by the regional council with number 473 on 27th June 2011 - dedicated to young people of Molise and administrated by the University of Molise, the scientific group made the decision to use the Continuing Professional Development (CPD) model for some applications having the main aim of shaping the young graduates in the direction of a continuous and self-managed learning approach, according the rule of Life Long Learning and in observance of the Human Capital Theory.

The CPD model was tested applying a suitable instrument for those subjects who have been chosen to operate with within the bounds of the different action lines and was tested also on various types of different young graduates groups. This model has been attached to the present work.

The first appliance has been recently carried out within the action area called "Placement" of integrated plan for Molise young people. A group of 39 people, young graduates belonging to different areas (humanistic, social, economic, scientific area) in a various age range (between 20 and 29 years old) has been inserted in the CPD method through a 6 months long apprenticeship at business company in the Molise Region.

Aim of this training period was the co-operation with the already existing staff of the company in order to realize a project work for the process innovation of the company or for the product innovation. During the apprenticeship the young graduates have done an individual path and a small group work of 20 hours, under the guidance of experienced training supervisor and a coach with interviews and meetings.

A second appliance of the CPD model is currently being carried out in the AREA CREATING AN ENTERPRISE of the integrated plan for Molise young people. In the action line number 4 we have an educating path towards the realization of the business idea. This project has recruited 37 young graduates

of Molise region, initiated to self-company of self-employment. The educating path provides a specific transversal coaching action realized with the support of CPD model.

A third appliance of the CPD model is still provided within the Area Placement in the action line of project number 2, which deals with learning from competences belonging to employment insertion. This line (line number 2 of the project) provides a Master of high apprenticeship called "Innovation, business management and personnel administration" (Innovazione, Management aziendale e gestione del personale") dedicated to 20 graduates taken on staff with a high apprenticeship contract. The junior clerks, during the training period to 36 months made at school and on-the job, will carry out a professional Assessment session with the help of CPD model.

The three trial actions for this model have been carried out with the purpose of demonstrating how it can be useful and valid to use methods which typically belong to enterprise environment in other formal training bounds such as the university and in respect of particular subjects like young graduates in transition from school to work.

This project is expected to promote in an amount of 100 young graduates of Molise the culture of a continuous updating of their own professional ability.

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ISSN 1313-2571, Published at: http://www.scientific-publications.net

Attached sheet:

Piano Integrato Giovani Molise

Project Work

PROJECT WORK

title of the Project

student's name

period of the project

Stage of project work

Overall Goal of project work

Overall Goal is …

Context Analisys and difficulties organizational

ISSN 1313-2571, Published at: http://www.scientific-publications.net

Specific analysis

PERCEIVED DISCOMFORT	WHO	WHAT	WHERE	WHE	WHY	Real problem

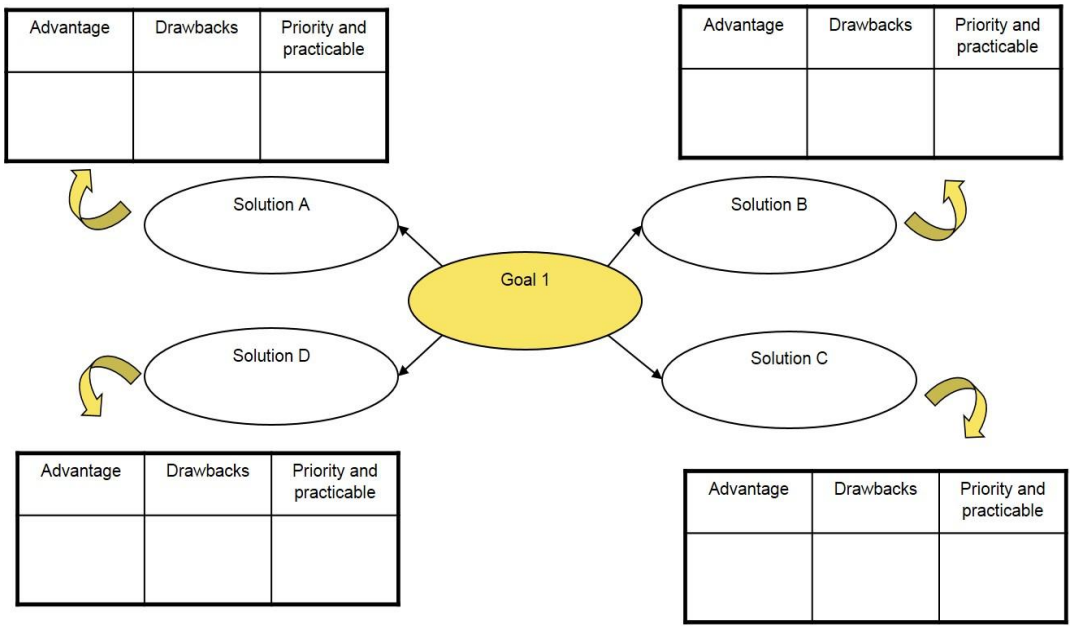
Matrice SWOT

Within the company	Strenghts •	Weaknesses •
Outside the company	Opportunities •	Threats •

Goal to be achieved

Real Problem	Goal	Sub-goal	Priority

ISSN 1313-2571, Published at: http://www.scientific-publications.net



Planning of the intervention)

Flow-chart of process

Expected outcome

Plan of Competenties

Competenties	Levels			
	Partial	Basic	Superior	Excellent
1				
2				
3				

ISSN 1313-2571, Published at: http://www.scientific-publications.net

Learning Plan

Goal of Learning	Resources and strategies for learning	Evidence of achievement of goal

Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

TOWARDS A MODEL OF INTEGRATION OF IMMIGRANTS IN MOLISE

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Abstract

This paper aims to examine the issue of the integration of foreigners in Italy and in particular in Molise. Specifically, the purpose is to reflect on the inclusion of immigrants into the social regional context with particular attention to the workplace and school. The choice to focus the research on the Molise stems from the fact that in this region the immigration represents a new factor, exiguous in numbers compared to the rest of Italy, although it appears to be growing especially as regards to adults of working age. We believe, therefore, that a study on immigration in our region - in which it can be highlighted the unique aspects that distinguish the presence of foreigners on the territory of Molise - may, in fact, benefit the construction of social and educational policies, on the ongoing social transformations, until the creation of a specific model of integration for Molise.

Key words: *immigrants, integration, school, workplace, Molise social context*

1. INTRODUCTION

Globalization is undoubtedly one of the most significant and distinctive feature of the contemporary world. More specifically, the economic, political and social interdependence, on the one hand, and the substantial migratory movements, on the other hand, are the salient aspects of the profound transformations that are occurring in present day societies, characterized more and more by the coexistence of multiethnic and multicultural diversities (Silva 2008; Pinto Minerva 2004; Bauman 2000).

Within this international scenario, in Italy we see a radical change in migratory dynamics: in fact, our Country, that in the second half of the Nineteenth Century and for about a Century was one of the major Countries of emigration, at the beginning of the Seventies of the Twentieth Century, has become an important destination of migration flows coming from developing Countries and from Eastern Europe (Pugliese, 2008, p. 209).

Therefore, in the attempt to study some of the main changes in today's society, through an examination of the immigration phenomenon in Italy and, more precisely, in Molise, it seems useful to start this work giving some brief reference to a few episodes of mobilization that occurred in the past in our own region (Pugliese 2008, pp.. 209-211), in order to better understand the dynamics of the local migration history[70], but also to reflect on the experience of migrating that has always characterized the history of nations and people (Giusti, 2004, pp. 5-106) and that affects the lives of men[71].

[70] In this regard it is worth mentioning the fourth issue of *Glocale. Rivista molisana di storia e scienze sociali*, that is, in fact, entirely dedicated to the theme of migrations of Molise (Argilli *et al*., 2011).

[71] See also: Wallnofer (2000).

The Molise region can be considered a territory with a long history of migration (Muscarà, 2009, pp. 14-15). In fact, during the Great Italian Emigration – that began in the Seventies of the Nineteenth Century and lasted until the first half of the Twentieth Century - and even in the period after the Second World War, when restarting the national mobility, Molise was one of the first regions of the South of Italy in which this phenomenon has reached the highest levels[72].

On this side, however, it is important to note that the history of Molise has been characterized not only by the significant number of Molisans who decided to emigrate to other Countries, but also by the occurrence of the reverse phenomenon, namely, by the arrival of people flows: in particular, towards the middle of the Fifteenth Century, groups of Rom, Croats and Albanians, pressed by the invasions of the Ottoman Turks, were forced to cross the Adriatic Sea and they found concrete possibilities of settlement in the territories of Molise that had unpopulated because of the terrible earthquake of 1456 and the plague of 1495[73]. Therefore, we should just go back to these stories of immigration to explain the current presence of certain Rom communities and Croatian and Albanian (arbëreshë) linguistic minorities in the area of the coast, called also 'Lower Molise'[74].

It is not possible to further deepen the past migratory experiences of Molise, but what has just been mentioned hitherto is the socio-historical context that should be considered to focus on the today's migration phenomenon in the region, because although this falls in the more general national framework, nevertheless it fits into a specific territory in which, as we shall see, it is also being developed with its own peculiarities.

These observations and these historical references are, therefore, the necessary premises that will allow a better understanding of the phenomenon of immigration that is going to be presented: starting from the national data, it will be outlined, albeit in broad terms, the main socio-demographic characteristics of foreign residents in Molise and, subsequently, it will be investigated their inclusion in the workplace and at school. These two factors represent crucial aspects from which to begin building a model of social integration of immigrants in the Molise region on which it is now inevitable to reflect. Such an integrative model that, while taking into consider the dynamics of national and general trends, should be especially suited to the local specificities that, in some way, have been brought to light, with this work, although preliminary. In the following pages, therefore, will be described the first results of the research that has been conducted within the project co-financed by the Region of Molise called "Politiche del Lavoro per l'Integrazione degli stranieri in Molise" (Work Policies for Integration of Foreigners in Molise). This project aimed to identify a possible model of regional integration of foreigners residing in the region.

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[72] For the quantitative data and for more information on the Great Emigration in Molise, see Massullo (2000a) and Lombardi (2006), while regarding the second phase of emigration after the Second World War see also Pugliese (2008) and Masullo (2000b).

[73] In this respect, should be mentioned the recent studies conducted by Novi Chavarria (2007) and Sarno (2009, pp. 23-51).

[74] More precisely, the Croatian-speaking minorities are now in the municipalities of Acquaviva Collecroce Montemitro and San Felice del Molise, the Albanians ones are mostly found in Campomarino, Montecilfone, Portocannone and Ururi, that is to say, all in the coastal area, while the Rom communities have now allocated mainly in Campobasso, Isernia, Santa Croce di Magliano and also in Termoli and Venafro. In this regard, see the studies cited in the previous note.

2. SOME SOCIO-DEMOGRAPHIC CHARACTERISTICS OF FOREIGN POPULATION IN ITALY AND MOLISE

According to estimates made by ISTAT[75] (2012a, p. 8), the foreigners residing in Italy on 1st January 2012 were 4 million and 859 thousand, to which the ISMU Foundation adds 326 thousand irregular immigrants and other 245 thousand foreigners in possession of a valid residence permit but not enrolled (or not yet) to any registry office, for a total of 5 million and 430 thousand foreigners in our Peninsula (Blangiardo, 2013, pp. 38-39).

By restricting the scope of investigation to foreign residents, it should be noted that they represent 8,0% of the whole population residing in Italy (ISTAT 2012a, p. 8). Moreover, the number of foreigners has increased by 289 thousand units compared to 1st January 2011; it is a growth that, however, is significantly lower than that of the previous year (+335 thousand of units)[76]. It seems, therefore, that there has been a slowdown in the upward trend of the foreign population in our Country – due, most likely, to the national economic crisis (Cesareo, 2013, p. 7) –. In any case, the growth trend in recent decades has reached very high levels close to those of other European Countries which have had a most ancient and important colonial history (Albani, 2012 p. 89).

ISTAT (2012a, p. 8) estimated also the distribution of the Italian and foreign resident population in the regions of Italy, at the beginning of 2012; in the light of this information (given in the following Table 1), we can then consider that in Molise foreign residents were about 10 thousand, namely, 3,1% of total residents. Compared to 1st January 2011, when they counted less than 9 thousand units (to be exact, 8.929)[77], we can found an increase of about 1 thousand that, unlike the national trend, is higher than the previous year (of +818 units). Consequently, although the foreign presence in the region is still low (only 0,2% of the distribution of foreign citizens in Italy), it records, without a doubt, a constant growth.

Regarding to what has been argued, it should be noted that all the data referring at 1st January 2012 are only estimates, so they have a scientific value, but purely probabilistic. These numbers have been inferred from the data concerning the movement of the resident population (births, deaths and transfers of residence) that have been collected and sent by the Italian municipalities to ISTAT only for the first 7 months of the year, so for the remaining five months the Institute of Statistics has made predictions that will subsequently be updated (ISTAT 2012a, p. 11). At the moment there aren't other more reliable

[75]The Italian National Institute of Statistics, ISTAT, is the public research organization that deals with drawing up official statistics.

[76] For the data relating to 1st January 2011, see: ISTAT (2011, p. 1).

[77] See ISTAT (2011, p. 3).

sources[78] that provide a complete picture of the foreign presence (both EU and non-EU[79]), for this reason it is more useful, for the purposes of this study, to analyze certain data relating to 1st January 2011, in order to have even more detailed and interesting information about the presence of foreigners in Molise.

Table 1: Italian and foreign resident population by region on 1st January 2012 (estimates) - based on Istat data

Regions	Residents (thousands)			% foreigners in the total population	Distribution on the territory (%)		
	Total	Italians	Foreigns		Total	Italians	Foreigns
Piemonte	4.474	4.050	424	9,5	7,4	7,2	8,7
Valle D'Aosta	129	120	9	7,2	0,2	0,2	0,2
Lombardia	9.990	8.861	1.129	11,3	16,4	15,8	23,2
Trentino Alto Adige	1.046	951	96	9,2	1,7	1,7	2,0
Veneto	4.965	4.435	530	10,7	8,2	7,9	10,9
Friuli Venezia Giulia	1.238	1.127	110	8,9	2,0	2,0	2,3
Liguria	1.616	1.482	134	8,3	2,7	2,6	2,7
Emilia Romagna	4.461	3.931	530	11,9	7,3	7,0	10,9
Toscana	3.766	3.379	386	10,3	6,2	6,0	8,0
Umbria	911	805	106	11,6	1,5	1,4	2,2
Marche	1.571	1.418	153	9,8	2,6	2,5	3,2
Lazio	5.774	5.190	584	10,1	9,5	9,3	12,0
Abruzzo	1.347	1.260	87	6,4	2,2	2,3	1,8
Molise	320	310	10	3,1	0,5	0,6	0,2
Campania	5.832	5.657	176	3,0	9,6	10,1	3,6
Puglia	4.090	3.987	103	2,5	6,7	7,1	2,1
Basilicata	586	570	16	2,8	1,0	1,0	0,3
Calabria	2.010	1.928	82	4,1	3,3	3,4	1,7
Sicilia	5.049	4.896	153	3,0	8,3	8,7	3,2
Sardegna	1.676	1.635	41	2,5	2,8	2,9	0,9
ITALY	**60.851**	55.991	**4.859**	**8,0**	**100,0**	**100,0**	**100,0**

In this direction, then, according to ISTAT[80] it can be stated that, at the beginning of 2011, Molise was the penultimate Italian region (before only to the Valle d'Aosta), for the number of foreigners regularly residing: they were in fact 8.929, corresponding to 2,8% of the total population in our region. This is an incidence below the average of 7,5% recorded in Italy, yet the variance from last year in Molise

[78] At this regard, it must be added that 2011 was a special year from statistical point of view because it was made the 15th Census of the population in Italy, so it was collected even numbers, still provisional, of the foreign presence in our Country. The ISTAT publication (2012c) of the 19 December 2012 reveals that foreign residents would amount to 4 million and 29 thousand of people (to be exact, 4.029.145): this datum differs significantly from that estimated by ISTAT and a little above mentioned (which is around 4 million and 859 thousand). About the possible reasons for this discrepancy see the contribution edited by the Idos /Redazione of Immigration Statistical *Dossier* Caritas and Migrants (2012, p. 97-98) in which there are also references to the various press releases issued by ISTAT.

[79] It should be pointed out that reliable data on the non-EU citizens were officially provided by ISTAT (2012b), while those for the EU citizens are only estimated in Blangiardo (2013, p. 41-42) to which reference should be entirely made for more information.

[80] The data, summarized in Table 2, were extracted from the official website of ISTAT: <www.demo.istat.it> (accessed May 2013) and have also been developed by consulting the website at this link: <http://www.tuttitalia.it/statistiche/cittadini-stranieri-2011/> (access, May 2013).

(amounted to 10,1%) appears to be undoubtedly higher than the same change in Italy (measured to 7,9%). This would seem to corroborate the idea, already mentioned above, that the foreign presence in Molise is constantly growing, so it is also probable that over the years could reach the levels recorded in the rest of Italy.

Table 2: Foreign resident population by region on 1st January 2011 (ranking for number of foreigners) - based on Istat data

Regions	Resident foreigners				% foreigners in the total population	% change over the previous year
	Males	*Females*	**Total**	**%**		
1. Lombardia	537.659	526.788	1.064.447	23,3%	10,7%	8,4%
2. Lazio	254.890	287.798	542.688	11,9%	9,5%	9,0%
3. Veneto	251.114	253.563	504.677	11,0%	10,2%	5,0%
4. Emilia-Romagna	242.728	257.869	500.597	11,0%	11,3%	8,2%
5. Piemonte	190.667	208.243	398.910	8,7%	9,0%	5,7%
6. Toscana	172.028	192.124	364.152	8,0%	9,7%	7,5%
7. Campania	68.540	95.728	164.268	3,6%	2,8%	11,7%
8. Marche	69.402	76.966	146.368	3,2%	9,4%	5,3%
9. Sicilia	68.147	73.757	141.904	3,1%	2,8%	11,5%
10. Liguria	58.592	66.728	125.320	2,7%	7,8%	9,6%
11. Friuli-Venezia Giulia	52.169	53.117	105.286	2,3%	8,5%	4,4%
12. Umbria	45.395	54.454	99.849	2,2%	11,0%	7,1%
13. Puglia	44.298	51.411	95.709	2,1%	2,3%	13,5%
14. Trentino-Alto Adige	43.078	47.243	90.321	2,0%	8,7%	6,0%
15. Abruzzo	37.554	43.433	80.987	1,8%	6,0%	7,0%
16. Calabria	33.790	40.812	74.602	1,6%	3,7%	13,3%
17. Sardegna	16.889	20.964	37.853	0,8%	2,3%	13,7%
18. Basilicata	6.476	8.262	14.738	0,3%	2,5%	13,4%
19. Molise	3.859	5.070	8.929	0,2%	2,8%	10,1%
20. Valle d'Aosta	3.936	4.776	8.712	0,2%	6,8%	6,2%
ITALY	**2.201.211**	**2.369.106**	**4.570.317**	**100,0%**	**7,5%**	**7,9%**

Analyzing, more in detail, the information provided by ISTAT regarding foreign residents in the two provinces of Molise (see the following Table 3), it can be reported that, on 1st January 2011, the province of Campobasso recorded the highest number of immigrants (the foreign residents were 6.511, compared to 2.418 in the province of Isernia). However, if you take into consideration the percentage change of foreigners in the two provinces, over the previous year, it is interesting to note that it is rather the Isernia province that recording the highest increase (which was of 12,7%, compared to 9,2% registered in the other province of Molise).

Table 3: Foreign resident population in the Molise region on 1st January 2011 - based on Istat data

	Resident foreigners				% foreigners in the total population	% change over the previous year
	Males	*Females*	**Total**	**%**		
Province of Campobasso	2.786	3.725	6.511	**72,9%**	2,8%	9,2%
Province of Isernia	1.073	1.345	2.418	**27,1%**	2,7%	12,7%
Molise	**3.859**	**5.070**	**8.929**	**100,0%**	**2,8%**	**10,1%**

Moreover, it has been possible to deepen also the study of the foreign presence in the municipalities of the region at the beginning of 2011, therefore, it have been identified the three municipalities of the two respective provinces of Molise with the greatest number of immigrants[81]. The data in Table below allow to observe that in the province of Isernia, just the Chief town was in first place with 603 foreigners, instead in the province of Campobasso, the town of Termoli reached the highest number of foreigners, compared to Chief town. For this reason, hence, Termoli stands as the first town in the region with 1.097 foreign citizens, followed by Campobasso, with 995 foreigners and Isernia. This leads to speculate that migratory movements are related to the higher demand for job and manpower that occurs in the area of the coast. About the dynamics of the labor market in Molise will return shortly, in this context it is worth to emphasize that the presence of foreigners is focusing right in the so-called 'Lower Molise' (see Figure 1), where Croatian and Albanian minorities persist, so this phenomenon is triggering in the area that already contains a socio-cultural pluralism.

Table 4: Foreign resident population in the three municipalities with the highest number of immigrants in the province of Campobasso and Isernia on 1st January 2011 - based on Istat data

Minicipalities		Resident foreigners			% foreigners in the total population
		Males	*Females*	**Total**	
Prov. of CB	Termoli	421	676	1.097	3,3%
	Campobasso	384	611	995	2,0%
	Montenero di Bisaccia	230	226	456	6,7%
Prov. of IS	Isernia	255	348	603	2,7%
	Venafro	183	178	361	3,1%
	Pesche	65	66	131	8,2%

It seems appropriate, at this point, to consider some of the characteristics of the foreign population residing in the region at 1st January 2011, in order to outline some of the most significant aspects of this new social component.

The first element to highlight is the presence of foreign women in the region. As can be seen from Table 3 shown above, these women are more numerous than males in both provinces of Molise: the foreign females residing in the province of Campobasso were 3.725 compared to 2.786 foreign males, while in the other province the women were 1.345 and men were 1.073. In total, then, the number of immigrant women in Molise, in early 2011, amounted to 5.070 units, in terms of percentage composition, the foreign females counted for 56.8% of the foreign population resident. This regional datum not only conforms to the national trend – which shows an incidence of foreign female population equivalent to 51,8% - but even exceeds by 5 percentage points[82].

[81] The numbers (upgraded to 1st January 2011) of foreigners living in each municipality of Molise, divided in the two provinces, are available on the sites: <www.demo.istat.it>; <http://www.tuttitalia.it/statistiche/cittadini-stranieri -2011/> (accessed May 2013).

[82] The percentages were calculated from national data found in ISTAT (2011, p. 1) and can also be found on the website: <www.demo.istat.it>, accessed May 2013.

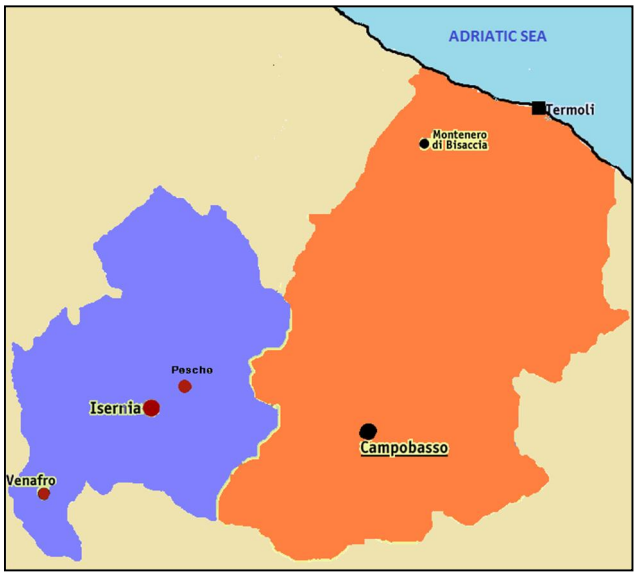

Fig. 1: Municipalities with the highest number of foreigners residents in the provinces of Molise on 1st January 2011 - based on ISTAT data

Another aspect to point out is the distribution of resident foreign citizens in relation to different age groups: Table 5[83] clearly indicates that in the province of Campobasso as well as in that of Isernia, the most numerous group of foreigners is made up of people aged between 30 and 44 years, in fact, on 1st January 2011, they came to count 3.147 units throughout the region. In other words they represent the 34,3% of total immigrants residing in Molise. This is a percentage that is slightly lower than the same registered in Italy (35.7%), nevertheless it is in line with the national trend, according to which foreigners are composed mainly of adults in the age of the full working realization[84].

Table 5: Foreign resident population by age and sex in the Molise region on 1st January 2011 - based on Istat data

	age groups																	
	0-14			15-17			18-29			30-44			45-64			65-oltre		
	Males	*Females*	**Total**	*Males*	*Females*	**Total**	*Males*	*Females*	**Total**	*Males*	*Females*	**Total**	*Males*	*Females*	**Total**	*Males*	*Females*	**Total**
Province of Campobasso	529	526	1.055	102	100	202	708	859	1.567	968	1.375	2.343	423	766	1.189	56	99	155
Province of Isernia	180	164	344	42	31	73	323	272	595	329	475	804	174	360	534	25	43	68
Molise	**709**	**690**	**1.399**	**144**	**131**	**275**	**1.031**	**1.131**	**2.162**	**1.297**	**1.850**	**3.147**	**597**	**1.126**	**1.723**	**81**	**142**	**223**

[83] The numbers in the Table were taken from the ISTAT website (www.demo.istat.it) and, therefore, properly grouped together.

[84] The percentage compositions were disclosed in Colaiacomo (2011a, p. 482) that – it should be noted – are related to 31.12.2010.

As regards, moreover, the foreign communities residing in the provinces of Molise, Romanian citizens are in the first place, as well as in the rest of Italy (ISTAT, 2011, p. 9). For accuracy, at 1st January 2011, the Romanians in Molise were 3.112, that was the 34.9% of total foreign population. Over half of these Romanian (namely 1.860 units) were female (see Table 6).

Table 6 : First largest foreign community residing in the Molise region on 1st January 2011 - based on Istat and Caritas/Migrantes data

	First foreign community	*Males*	*Females*	**Total**	**% in the total foreign population**
Province of Campobasso	Romania	945	1.357	2.302	35,4%
Province of Isernia	Romania	307	503	810	33,5%
Molise	**Romania**	**1.252**	**1.860**	**3.112**	**34,9%**

By extending the analysis to the other most numerous communities in our region - in this regard see Figure 2 which shows the numbers of the top 20 foreign communities in Molise -, it should be noted that the Moroccans have been positioned in second place and the Albanians at third, with a reversal of the second and third place compared to the national ranking[85].

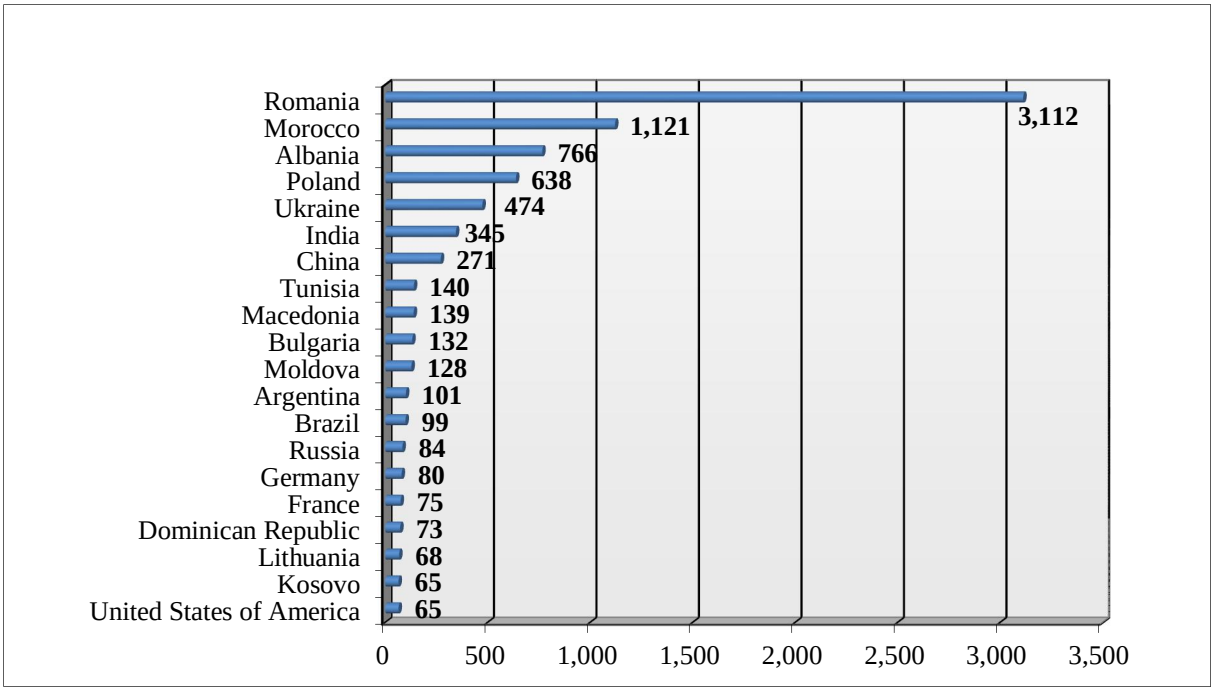

Fig. 2: The 20 most numerous foreign communities in the Molise region on 1st January 2011 - based on ISTAT and Caritas/Migrantes data

[85] In this respect, see ISTAT (2011, p. 3:09) and website: <http://www.tuttitalia.it/statistiche/cittadini-stranieri-2011/> (accessed May 2013). For regional data, see also Colaiacomo (2011b, p. 463).

The data discussed so far have allowed to trace some salient elements of the foreign population in Molise and, more in general, in Italy; out below will be examine two particular areas of investigation – that are the workplace and school – in order to attempt to understand, in some way, the dynamics of the inclusion of foreigners in the Molise social context.

3. THE INCLUSION OF FOREIGNERS IN THE MOLISE WORK CONTEXT

In recent years, the national and international economic crisis has had a very strong impact on the labor market and has negatively affected on the employment opportunities especially for foreigners (Albissini, Pintaldi, 2011, pp. 231-239).

To confirm this, it may be examined the data released by INAIL and referring to 31st December 2011[86]. According to the survey of this National Institute, the foreign-born workers[87] who have worked for at least one day in Molise, were 10.485 (12% of total workforce), of which 43,3% were women. With regard to foreigners who have had one or more assumptions, in the same 2011, we know that they amounted to 5.385 units, so they represent the 18,7% of all recruitments in Molise. Moreover, 24,4% of the workers, who were hired in Molise for the first time in 2011, consists of foreign-born workers (corresponding to 1.314 people). Essentially "after the fall recorded in 2010, compared to the previous year" (Minicucci, Pizzi, 2012, p. 410)[88], the values of employment began to grow again in 2011 – see the following Table that shows all the numerical variations between 2010 and 2011 –. On the other hand, however, these positive results are counterbalanced by the number of terminations (ie the number of employees who have had at least a cessation of work during the reference year) because the balance between new hires and terminations of employment was recorded with a negative sign: the people expelled from the labor market exceeded the assumptions of 101 units. "This means that the crisis has reduced the dynamism into employment and has also led to a prevalence of less stable recruitments" (Marinaro, Pittau, 2011, pp. 157).

With regard to the situation of foreign workers, the Caritas/Migrantes Dossier has also provided with the prospect of employment, divided by areas of activities, which is valid until 31 December 2011 (see Figure 3): in Molise, therefore, 46,6% of the foreign laborers were employed in the field of the Services, 34,1% into the Industries and, finally, 16,1% in the area of Agriculture and Fisheries (Minicucci, Pizzi, 2012, p. 410).

[86] INAIL is the Workers Compensation Autohority that manages the protection system for all workers. The data provided by it and used in this context were properly processed in the Caritas/Migrantes Dossier of 2012; reference should be made in particular to the contribution of Di Sciullo (2012, p. 246-253).

[87] It should be pointed that with this terms INAIL also refers to Italians born abroad and then repatriated. "From this point of view Molise is also an exceptional case, because it has a quota of returnees (children of many emigrants of Molise in the world) very consistent" (Pizzi, 2009, p. 436, note 2). On this question, it will come back later.

[88]It should be specified that, throughout this paper, the translations of the quotes originally in Italian were made by the authors, so to view the original citations, please refer to the texts and the pages that will be mentioned from time to time.

Table 7: Foreign-born workers insured by Inail for working conditions in the Molise region on 31st December 2010 and 2011- based on Caritas/Migrantes and Inail data

	OCCUPIED			EMPLOYED		NEW EMPLOYED		BALANCES (empl.-ceased)	% new empl. over the occup.
	Foreigners	% *Females*	% foreigners in the total occup.	stranieri	% foreigners in the total empl.	Foreigners	% foreigners in the total new empl.		
31st December 2010	8.981	43,0%	12,7%	4.267	19,4%	1.082	31,3%	-177	12,0%
31st December 2011	10.485	43,3%	12,0%	5.385	18,7%	1.314	24,4%	-101	12,5%
variation 2010-2011	**1.504**	**0,3%**	**-0,7%**	**1.118**	**-0,7%**	**232**	**-6,9%**	**76**	**0,5%**

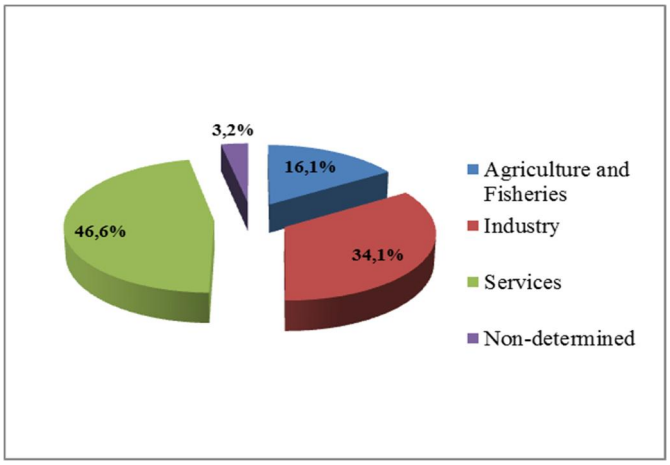

Fig. 3: Areas of employment of foreigners insured in the Molise region on 31st December 2011 - based on Caritas/Migrantes and Inail data

Right "on the relationship between the labor market and the integration of immigrants" in different employment areas, Renato Marianaro and Franco Pittau, in a recent research, have proposed the following "reading lines":

- "a significant percentage of the agriculture activities: 16,1% of employees (national average 8.5%), the productive sector in which, among other things, there is the greatest spread of submerged, like in the building industry;
- a considerable percentage of the industry: 34,1% (national average 29,6%) for the decisive incidence of building industry [...] that before the crisis was the main employment opportunity for immigrants in both provinces;
- a prevailing impact of services, albeit reduced compared to the national average: 46,6% (versus 57,0%) with a great importance for the tourism and hotel sector "(Marinaro, Pittau, 2011, p.157).

At the regional level, moreover, the two researchers have found that "the two zones in which there is the greatest concentration of foreign workers are those of Campobasso, in the hinterland (especially in the urban area where there is the more relevant presence), and Termoli, on the coast "(Marinaro, Pittau, 2011, p.157).

About the foreign manpower registered at the end of year 2011 in Molise, INAIL has disclosed other information concerning the most common Countries of birth among workers born outside Italy. The following Table, drawn up in the light of these data[89], allows to observe that the first community is represented by Romanians (counting 2.739 units, ie, 26,1% of the total number of foreign workers). In the second and third place are positioned, respectively, Switzerland (with 1.091 units) and Germany (with 1.059 units): these Countries, in the past, were traditional destinations of emigrants from Molise (Marinaro, Pittau, 2011, p.156) so it seems plausible that the workers now coming from these Countries are mostly the children of Molisan people who return to work in the region. According to what has just been stated, and excluding, therefore, those employees who were born in Switzerland and Germany, it can be added that the other more representative communities of foreign workers in Molise are Albanian, Moroccan, Bulgarian and Polish.

Table 8: Employed foreign-born in the Molise region by Country of birth (year 2011) - based on Caritas/Migrantes and Inail data

Countries	Foreigners	%
Romania	2.739	26,1%
Switzerland	1.091	10,4%
Germany	1.059	10,1%
Albania	545	5,2%
Morocco	452	4,3%
Bulgaria	376	3,6%
Poland	364	3,5%
United Kingdom	307	2,9%
Canada	301	2,9%
Venezuela	280	2,7%
Ukraina	263	2,5%
India	257	2,5%
France	244	2,3%
Argentina	195	1,9%
Belgium	190	1,8%
United States	146	1,4%
Bangladesh	118	1,1%
China	108	1,0%
Serbia and Montenegro	100	1,0%
Tunisia	100	1,0%
other Countries	1.250	11,9%
TOTAL	**10.485**	**100,0%**

[89] For more details, see Colaiacomo (2012, p. 455).

At this point of the investigation on the workforce of foreigners in Molise it can be appropriate to proceed by analyzing two aspects useful to delineate more clearly the framework of the local employment.

The first one upon which to focus concerns the subordinate employment related to domestic collaborations. In this case, the source consulted and that enables to know the situation of domestic workers in Molise is the INPS Observatory on Domestic Workers[90]: from the research and by processing the data it appears that, in 2011, the foreigners employed as domestic workers in the region were 1.349, namely, they were more than double the Italian employees with the same job (which were 694). The vast majority (1.286 units) of these foreigners, however, was women (so they represent 95,3% of foreign domestic workers). Moreover, these women were predominantly from some EU Countries – unlike the males who were quite originating from non-European Countries – (see Table 9).

Table 9: Italian and foreign domestic workers (both EU and non-EU) in the Molise region, year 2011 - based on *Osservatorio sui Lavori Domestici INPS* data

	Italians			**Foreigns**								
				Total			**EU foreigners**			**non-EU foreigners**		
	Males	*Females*	**Total**	*Males*	*Females*	**Total**	*Males*	*Females*	**Total**	*Males*	*Females*	**Total**
Province of Campobasso	12	460	472	36	812	848	8	524	532	28	288	316
Province of Isernia	7	215	222	27	474	501	7	378	385	20	96	116
Molise	19	675	694	63	1.286	1.349	15	902	917	48	384	432

It becomes clear, from this, how important is the contribution provided by foreigners working for Molise region. It could be agree, therefore, with the considerations advanced by Maria Paola Nanni just about the work of family assistance that is being done by foreigners in Italy: the immigrants who work in the Peninsula, and thus also in Molise, have the precious '"function' of 'creators/providers' of welfare, the informal/invisible/light welfare [...] that has filled, in a substantially spontaneous and derogated way, the deficiencies found in the system of national [and local] welfare and regarding the gradual loosening and/or restructuring of the family support networks "(Nanni, 2011, p. 261).

The second aspect to be explored, especially relevant to the analysis that that is being carried out, concerns the self employment of foreigners, or rather, the entrepreneurship of foreigners in Molise[91]. In 2011, the immigrant business owners in region were 274, nearly half of which (ie 136 units) results to be coming from Morocco, while, according to the following Table 10, the other recurring nationalities are basically the Romanian and Chinese.

Although these data are not quantitatively significant, they are still very important to consider the spirit of enterprise of foreigners: "the entrepreneurial commitment [by the immigrants] is credited as a positive sign of integration, because it indicates their willingness to get into play through the use of professional skills and economic resources in the land that welcomed them. This entrepreneurial dynamism - continue Marinaro and Pittau (2011, p. 158) – has been also lively in recent years affected by the crisis, however,

[90] The database of Observatory on Domestic Workers is directly available on the INPS website from the web page: <http://www.inps.it/webidentity/banchedatistatistiche/menu/domestici/main.html> (accessed May 2013). INPS is the insurance institution of the Italian workers.

[91] See, in this regard, Colaiacomo (2012, p. 455).

while continuing to be a positive sign, in contrast to what happens for the business activities of the Italians, it is recorded a certain slowdown" in Molise. It would, therefore, be desirable that the foreign entrepreneurship is encouraged because it certainly contributes to the economic and productive development of the region.

Table 10: Foreign enterprise owners in the region Molise (year 2011) - based on Caritas/Migrantes and Unioncamere/Cna data

Nationality	Foreigners	%
Morocco	136	49,6%
Romania	44	16,1%
China	35	12,8%
Ukraine	7	2,6%
Albania	6	2,2%
Poland	6	2,2%
India	4	1,5%
Venezuela	4	1,5%
Russia	3	1,1%
Pakistan	3	1,1%
Bulgaria	2	0,7%
Lithuania	2	0,7%
Argenitina	2	0,7%
Dominican Republic	2	0,7%
Tunisia	2	0,7%
Bangladesh	1	0,4%
Cuba	1	0,4%
Ivory Coast	1	0,4%
Czech Rep.	1	0,4%
Ex-Yugoslavia	1	0,4%
other Countries	11	4,0%
TOTAL	**274**	**100,0%**

It is not possible here to continue further to discuss on the dynamics of the foreigners integration in the local labor market, the two aspects dealt with above may be emblematic to understand how really necessary is the immigrants contribution to Molise society: foreigners, in fact, not only compensate for the deficiencies of the welfare, doing "low social recognition" jobs that Italians do not want to do – and that it will ever more need in view of the aging of the population in Italy and in Molise – , but they also represent a new productive resource on which it is worth pointing also and perhaps especially in times of crisis (Ambrosini, 2012, pp. 223-224).

4. THE PRESENCE OF FOREIGN STUDENTS IN SCHOOLS OF MOLISE REGION

The Italian Ministry of Education, University and Research (MIUR), provides annual data on foreign students attending schools in the Peninsula and in the last available report, concerning the school year 2011/2012 (MIUR, 2012), it is expressly confirmed "the considerable and growing presence of non-

ISSN 1313-2571, Published at: http://www.scientific-publications.net

Italian alumni" in the schools. It is a presence that, according to the Ministry of Education or MIUR (2012, p. 3) "is configured as a structural phenomenon" of the Country.

Even in the Molise region, as elsewhere in Italy, it can be see a continuous increase in the foreign component among the total school population: examining, in fact, the percentage incidence of foreign students on all pupils who attended the schools of Molise, during the last decade, it may be noted that in the region, this percentage reached only 0,4% in the school year 2001/2002, while, after 10 years, it has been recorded 3,6% (see Figure 4 below)[92].

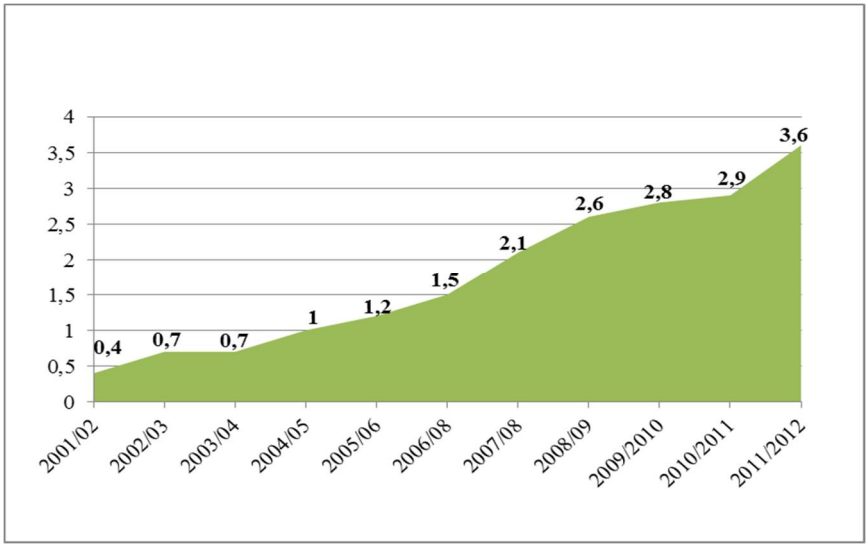

Fig. 4: Trend of foreign students in schools in the Molise region, period school years 2001/02-2011/2012 (percentages) - based on MIUR data

The incidence of 3,6%, registered in the region, is far from the analogous incidence observed in the rest of Italy – that in the same school year was 8,4% (MIUR, 2012, p. 8) – . Therefore, this comparison leads to argue that in Molise the presence of foreign students is still low. However, additional data encourage also to claim that it is a phenomenon expected to grow fast even in the region, and it will probably reach the average levels recorded in Italy. In support of this, it is enough to consider that, during the school year 2011/2012, the foreign students who have attended schools in Molise were 1.634 and they increased by 21,7% over the previous school year: this percentage is well above the national average (6,4%)[93]. Such an increase that has been recorded especially in the schools of the province of Campobasso, where

[92] The data of the incidence of foreign students in the school of Molise, until the school year 2007/2008, can be found in the Ministry of Education or MIUR (2009a, p. 31), while for similar incidences related to the subsequent school years, see: MIUR (2009b, p . 24) for the school year 2008/2009, MIUR (2010, p. 28) for the school year 2009/2010, MIUR (2011, p. 30) for the school year 2010/2011, and MIUR (2012 , p. 28) for the school year 2011/2012.

[93] About national data mentioned, see MIUR (2012, p. 8), while the regional percentage was calculated from data available in MIUR (2012, p. 28) and MIUR (2011, p. 30).

it has reached the quota of 26.2% – in this province, in fact, there have been 79,3% of total foreign students present in Molise –[94].

Table 11 - Foreign students in the Molise region, school years 2010/2011 and 2011/12 - based on *MIUR* and *Ismu Foundation* data

	school year 2010/2011			school year 2011/2012			% change over the 2010/2011
	amount	%	per 100 students	amount	%	per 100 students	
Province of Campobasso	1.026	76,4%	3,0	1.295	79,3%	3,8	26,2%
Province of Isernia	317	23,6%	2,7	339	20,7%	3,0	7,0%
Molise	**1.343**	**100,0%**	**2,9**	**1.634**	**100,0%**	**3,6**	**21,7%**

With regard to the distribution of students with non-Italian citizenship in the different school orders, the following Table shows that, during the school year 2011/2012, in Molise, the Primary school was the one with the highest number of foreign students (548 units), and also the one with the highest percentage incidence on all alumni (4,2%), followed by the High school, with 446 foreign students and with an incidence of 3,6%, and then the Middle school, where the foreign students were 359 and their incidence was 4,0%; only in the last place, we can find the Nursery school, attended by 281 pupils who have registered an incidence of 3,7% (MIUR, 2012, p. 28).

Table 12: Foreign students in the Molise region by school level, school year 2011/2012 - based on MIUR data

	amounts					per 100 students				
	Nursery	Primary	Secondary	High	**Total**	Nursery	Primary	Secondary	High	**Total**
Province of Campobasso	230	429	266	370	1.295	4,1	4,4	4,0	3,2	3,8
Province of Isernia	51	119	93	76	339	2,5	3,7	4,2	2,0	3,0
Molise	**281**	**548**	**359**	**446**	**1.634**	**3,7**	**4,2**	**4,0**	**2,9**	**3,6**

The Ministry of Education has also published the data on the continents of foreigners who have been enrolled in schools of Molise in the same 2011/2012 (MIUR, 2012, p. 32): observing the Table 13 it's clear that more than half of foreign students (67,3%, ie 1.100 units) come from Europe, the majority of which (741 units, ie 67,4% of Europeans and 45,3% of the whole foreign school population) possesses the citizenship of one of the Countries Member of the European Union. Much lower are, instead, the numbers of pupils coming from Africa (279 units), America (130 units) and Asia (103 units).

[94] In relation to the regional data, see the MIUR reports cited in the previous note.

Table 13: Foreign students in the Molise region by continent of origin, school year 2011/2012 - based on MIUR data

	Europa	of which: UE	Africa	America	Asia	Oceania	Apolide	Not indicated	TOTAL
Province of Campobasso	905	600	192	105	82	.	.	11	1.295
Province of Isernia	205	141	87	25	21	.	.	1	339
Molise	**1.100**	**741**	**279**	**130**	**103**	.	.	**12**	**1.634**

Moreover, regarding the Countries of foreign students, it can be also add that the most numerous nationalities are, firstly, Rumanians (they represent, to be exact, 34,0% of the total), followed by Moroccans (with the 14,5%) and Albanians (with 11,0%)[95].

These are, then, the main information concerning the presence of foreign students in the local school context, it could be appropriate, for the rest of this paragraph, to list, briefly, more details at disposal in order to try to delineate more precisely the characteristics of their inclusion in the local school system.

A first important aspect is represented by the students with foreign citizenship, but born in Italy. In the school year 2011/2012, the students of the second generation attending schools in Molise were a total of 289 (namely 17,7% of all foreign students) (MIUR, 2012, p. 34).

A second factor to be considered regards foreign students who have entered for the first time in the school system of Molise: according to the Ministry of Education (2012, p. 24) in 2011/2012 they were just 91 (ie 6,7% of the total of foreign students enrolled in Molise). To be exact it should be noted that the number is partial because it does not holds data of the Nursery school.

Thus, if it could be compare the data of the second-generation foreign students with those of the newly arrived foreign pupils, it's necessary to subtract the quota of foreign alumni attending the Nursery school from the number of all foreign students of the second generation (so it must be subtract 138 from 289 students), it follows that this part of foreigners born in Italy corresponds to 151 people: this number is, in any case, higher than that of newly arrived alumni registered in schools of Molise (ie 91 units).

It seems, therefore, that such result corroborates, in some way, what has been affirmed by the Ministry of Education regarding the characteristics with which it is happening the inclusion of foreigners all over Italy: "if in the early years, the increase of the presence of foreigners in the Italian schools was mainly due to immigration, then the evolution of the phenomenon has led to an increase in second-generation foreigners compared to new arrivals in the Country "(MIUR, 2012, p. 3)[96].

In the light of these considerations, it becomes clear that the school will have to face not only problems related to the initial reception of foreign students, because the students who are born and grow in Italy, almost certainly already speak Italian (MIUR, 2009a, p. 16) , but rather it will have to cope with the difficulties linked to the integration between different cultures and will also guarantee to new generations of foreigners born in our Country a good vocational education that enables them to fit well in the working world and, more generally, in the Italian society.

[95] For this data and more information on the top 10 nationalities of students in Molise, see: MIUR (2012, p 18.)

[96] For further data in support of this thesis, and for other information regarding the evolution of the phenomenon in Molise, it may be useful to refer to Pasquale (2011, p. 296-302).

In this direction, it may be interesting to analyze a final aspect related to the school, namely, the presence of non-Italian students in the High schools. So, in the school year 2011/12, the young foreigners who attended the High schools in Molise were 446, ie, 27,3% of the total number of foreign students (MIUR, 2012, p. 30). It is also worth to highlight, according to the following table, that were more numerous the foreigners enrolled in those types of schools designed for direct insertion in the labor market, than the foreign students who chose an education in field of Humanities and Science Studies or in Art Studies: among the whole group of 446 foreign students, in fact, 174 people attended Technical Institutes (ie 39,5%) and 122 were enrolled in Professional Institutes (hence they were 27,3%), for a sum of 296 pupils (ie 66.4%), while the foreign students in the Scientific or Humanistic High schools were 119 and even less (just 31) those who attended Art Institutes (MIUR, 2012, p. 30).

Table 14: Foreign students in the Molise region by type of High School, school year 2011/2012 - based on MIUR data

	Fields of Studies				
	Humanities and Sciences	**Technical**	**Professional**	**Art**	**Total**
Province of Campobasso	84	143	121	22	370
Province of Isernia	35	31	1	9	76
Molise	**119**	**174**	**122**	**31**	**446**

All what has been analyzed should be enough to state that actually the school represents an area of investigation especially pertinent to understanding the evolution of the migratory phenomenon in Molise and, more generally, in Italy; moreover it is also an important ground on which to play the possibility of inclusion and integration of foreigners in the contemporary society[97].

It is, therefore, "desirable and necessary that the Italian school system adapts to the structural transformations in society, namely, that the school changes, whilst retaining its irreplaceable educational task, which should aim to ensure equal dignity and equal right of formation both Italian students and the foreign ones"; for this purpose, the school should “train individuals – who have multiple identities (Giusti, 2004, pp.. 27-28) […] – to be capable of make plans of life and to realize themselves in society”, and at the same time, school should also “educate the future citizens to respect responsibly their duties and to claim their rights "(Pasquale, 2011, pp. 305-306).

5. CONCLUSIONS

The data presented in this work have shown that the stable presence of foreign people in Molise is significantly lower than the national average and this represents a special feature of the region. Starting from the research carried out in recent years, in collaboration with the Region of Molise, it has been possible also to draw a quite clear picture of policies which were pursued for the welcome and the social inclusion of these foreigners. A first aspect that emerges from the research is the remarkable variety of actions in favour of the foreigners realized on the territory of Molise (such as the refugees welcome, the

[97] With regard to policies promoted in Italy – and in Europe – for the integration of foreigners in society and in the school, see, for example, a recent book by Sani (2012).

social and labour policies and the initiatives for the education of foreign students). However, these actions are rather fragmented and improvised, because they have been realized to satisfy the urgent needs of the moment and don't denote a common line of action in favour of the development of the territory – which, even if slowly, is also changing in the composition of the resident population –. In other words, it seems that there is not a policy intervention in the local territory that is shared by the various institutions: local authorities, third sector associations and voluntary organizations, schools, universities. Therefore it follows that the foreign people arrive in Molise because they are driven by an interest in certain niches that exist in the local labour market, and not because they decide to settle in an area where it was built a social system suitable for the integration and the embedding of population on the territory. However it would advisable that local authorities and associations that operate in Molise pay attention to this model of social integration, to encourage foreigners to choose the Molise as a region of interest not only for business purposes, but also to live adequately and satisfactorily with the family.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

THE MODEL OF INTERCULTURAL EDUCATION IN ITALY: A LEGAL REVIEW

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Abstract

The aim of this work is to give an overview of intercultural education in Italian school starting from the legal perspectives. Unlike Italy, in many European countries, since the middle of the 900, the issue of interculturality, in field of education, has become a real emergency. In this perspective, the Council of Europe and UNESCO, in the Eighties of the last century, have focused their attention on this issue by adopting various pronouncements and recommendations. In Italy, however, the National Council of Education (CNPI) has ruled in favor of intercultural education much later – by means of different standards and ministerial circulars that have treated this issue explicitly – and only recently has defined a national model of intercultural integration in the school. The Molise, as region with special characteristics, is trying to find its own model of integration through a research called Plism entrusted by the Region at the University of Molise.

Key words: *Education, Interculturalilty, Integration, Italy, Molise, School legislation*

1. INTRODUCTION

The significant presence of foreign students in Italian schools is, undoubtedly, a clear challenge to the educational institutions of our country, as they have to face the need to develop appropriate educational strategies designed to respond effectively to the needs of a social reality that, over the years, has undergone profound structural changes, until it assumed an increasingly multiethnic and multicultural countenance.

In confirmation of this, it should be considered that, according to the estimates of the Ministry of Education, in the school year 2011/2012 there were 755.939 pupils with non-Italian citizenship in our schools. In this regard, it is important to note that "according to the ratio of foreign students to the total of the students, regarding nowadays compulsory education, 9 students over 100 are foreigners. On the whole, the pupils undergo a slight decrease (-0.1%), which is more evident in primary and secondary level (-0.3%), while they tend to increase in kindergarten and first grade secondary school (respectively 0.4% and 0.3%). "This trend is driven by the continuous decline of Italian students, as opposed to the stronger presence of students with non-Italian citizenship in any grade of study: compared with the previous school year, it has increased to 45,676 units, up to 6.4%".

In this regard, it is worth noting that "despite the increase of students with non-Italian citizenship has always been on the rise, the increase from year to year resulted descending. This year, instead, the phenomenon is in contrast, as, for the first time, the percentage change is greater than the previous year.

The overall increase of 6.4% was mainly due to non-Italian pupils born in Italy (44% of foreign students in total) rather than to the size of the migration flow (3.6%)"[98].

2. ITALIAN SCHOOL LEGISLATION IN THE FIELD OF INTERCULTURAL EDUCATION

The theme of intercultural education has revealed to be urgent not only in our country, but also in many other European nations. On this side, in fact, on several occasions the Council of Europe and the UNESCO have focused on this matter and have issued various pronouncements and recommendations since the eighties[99].

On this subject, even the National Council of Education (CNPI) intervened with its pronouncements in favor of intercultural education, followed by different rules and ministerial circulars that addressed the issue explicitly.

In this regard, we plan to look more closely at those which, in our opinion, provide more guidance and are aimed at all levels of school.

The concept of intercultural education is introduced for the first time with the Ministerial Circular no. 205 of the 22 July 1990 on Obligatory schooling and foreign students. Intercultural education. It is conceived as a response to the new demand for a multicultural society and aims at promoting a culture of acceptance and the integration of people belonging to other cultures and ethnicities.

Within the Circular in question, particularly significant are the indications concerning the educational interventions, which should aim, even in those classes where there are no foreign students, at promoting a culture of dialogue and tolerance[100].

In particular, within this circular it was stated that: "the primary objective of intercultural education is the promotion of the ability of a constructive coexistence in a multi-cultural context. It involves not only the acceptance and the respect of diversity, but also the recognition of the cultural identity in the daily search for dialogue, understanding, collaboration, in a perspective of mutual enrichment ".

With this Circular, therefore, the Ministry of Education acknowledged that "intercultural education is a structural condition of a multicultural society, and the school, exercising the role of mediator between different cultures, must also become the animator of a continuous, productive comparison between different models "(Durino Allegra, 1993, p. 67). It was also required to the teachers "not to force foreign students to follow the patterns of Western culture as if they were the best possible, and to remember that this ethnocentric vision should be avoided even when the class consists of foreign students only"[101], because the educational action is directed not only to the historical present, but also to the future.

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[98] See also: http://hubmiur.pubblica.istruzione.it//notiziario_stranieri_11_12.pdf

[99] See also la *raccomandazione* del Consiglio D'Europa "La formazione degli insegnanti a una educazione per la comprensione interculturale, particolarmente in un contesto di migrazioni'(1984); *documenti di studio*: "Formare gli insegnanti all'educazione interculturale" (1986); "L'educazione interculturale" (1989).

[100] Cfr. Commissione Nazionale per l'Educazione Interculturale, *Educazione interculturale nella scuola dell'autonomia*, Spaggiari, Parma, 2000, p. 24.

[101] C.M. n. 205, *La scuola dell'obbligo e gli alunni stranieri: L'educazione interculturale.*

Of fundamental importance is also the C. M. n. 73 of 2 March 1994 on Intercultural dialogue and democratic coexistence: the planning effort in the school that, as well as incorporating the issue of the integration of foreign students in schools of any grade and level, addresses the matter of the importance of preventing any form of racism and anti-Semitism and mentions the possibility of the emergence of "the intercultural value of all disciplines"[102].

In this circular is also stated that it is "in the universal value of the person that the foundation of a common culture resides, and in the Universal Declaration of Human Rights (ONU, 1948) the expression of general consensus values is recognised "; it was also highlighted that, to create an intercultural context, the awareness of their own identity and roots is necessary as an essential basis for comparison".

Unlike the previous ones, this circular made a specific reference to the role and prerogatives that should be employed in the various disciplines taught at school, "drawing inspiration from the indications in the syllabus and reading them vertically reading them," so as to extract from them some real intercultural objectives.

A final aspect in this document, that we consider worth pointing out, is the one related to the theme of acceptance: "The school must keep in mind the conditions of general discomfort of the families and, in particular, the problems resulting from the eradication of the pupil from the original environment. The relationship with the families and with the community allows the knowledge of the different situations, with reference to the guidelines and ways of life of the country of origin [...]. In reference to any type and grade of school, socialization between Italian and foreign students (also achieved through recreational activities and non-verbal language) is the first prerequisite for the development of common intercultural activities and a facilitating element for learning Italian as second language by foreigners. "

Precisely in this perspective, the teaching methods have been redesigned over the last two decades in order to encourage forms of dialogue and interaction between pupils able to promote their awareness that "the knowledge and the relationships (cognitive and social) are the result of a collective construction "(Frigerio, 1996, p. 257), to which every person has the duty to bring her unique contribution.

Undoubtedly, the provisions in the Law no. 40 of 6 March 1998 on the regulations governing immigration and the status of foreigners are important as well. In it, the emphasis is on the educational value of linguistic and cultural differences and, as highlighted in the Art.36, "(---) in the exercise of teaching and organizational autonomy" it is necessary to promote "intercultural projects of improvement of the educational syllabus, aimed at the appreciation of differences in language and culture and at the promotion of reception and exchange initiatives" in the schools[103].

Along the same line is is the Legislative Decree no. 286 of 25 July 1998 on the "Consolidated text of provisions governing immigration and the status of foreigners". In this Decree, we may identify a particular attention to all those activities designed to promote the integration of foreigners and to make the right to education effective. With this purpose, the school should promote the teaching of the Italian as a second language, to respect the language and culture of the countries of origin, as well as provide the training to the teachers and social integration to the immigrants[104].

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[102] *Ibidem*, pp. 24-25.

[103] Pubblicata sulla *Gazzetta Ufficiale*, n. 59 del 12 marzo 1998 – Supplemento Ordinario, n. 40.

[104] Decreto Legislativo n. 286 del 25 luglio 1998, pubblicato sul supplemento ordinario alla Gazzetta Ufficiale, n. 215 del 15 settembre 1998.

With regard to teacher training it is also important to remember the DPR n. 394 of 31 August 1999 on the "Implementation Rules of the Consolidated provisions concerning immigration and the regulations on the immigration of foreigners" in which, in addition to various provisions concerning the insertion of foreign students in our school system and certain indications on the division into classes, is ensured the Ministry's commitment to support the training of teachers through the realisation of projects aimed at upgrading and training, on the national and local level, regarding issues related to intercultural education. Moreover, this commitment is also reiterated in the C. M. n. 155 of 2001, in which additional funds for the teaching activities will be destined to all those schools with an attendance of foreign students and nomads superior than 10% of the members[105].

The legislative measures mentioned are only a part of the various regulations issued in the last few years, in favor of the integration of foreigners in the context of the Italian school. Among these, we wish to point out the Ministerial Circular no. 24 of 2006 on the "Guidelines for the reception and integration of foreign students", which emphasizes the importance of paying a particular attention to the reception of minors and also provides many guidelines and suggestions to organise the teaching and to facilitate their integration and success in education and training[106], as well as the important Document The Italian approach to the intercultural school, edited in October 2007 by the National Observatory for the integration of foreign students and the intercultural education, established in December 2006 by the Ministry of Education.

About this last document, it is particularly noteworthy what was stated stated in the introduction about the reasons that led the Ministry to wanting to find a purely Italian model of intercultural school. In this regard, it is stated: "The goal of identifying an Italian model derives from the need to draw attention on specific conditions, choices and actions that characterized the Italian experience; to identify the strengths that have to become "system "; to identify the weaknesses that should be dealt with new practices and resources; to give visibility to new goals and projects"[107].

The aspiration to create an Italian model of integration can also be found in the document edited by the Immigration Committee, Observations and Proposals on the second generations and policies for the school, approved by the National Council of Economy and Labour (CNEL) on January 31, 2008. In this document, it is stated that in terms of integration, the Italian set of rules is oriented towards a different model than those of the other European countries, that is a model that is "neither inclusive " such as the French one, "nor (- -) multicultural "as promoted by the United Kingdom. According to the drafters of the document, in fact, these countries "are both dramatically proving their limits up against the diverse nature of migration, injustice and marginalization, social arrangements, new and serious problems, the international context."

The model proposed by the Committee for Immigration has the ambition to pursue "a process of recognition, dialogue, confrontation" that not only promotes the respect for cultural diversity, but also

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[105] *Circolare Ministeriale 26 ottobre 2001, n. 155*, Prot. n. 520, Oggetto: *Scuole collocate in zone a forte processo immigratorio* (artt. 5 e 29 del C.C.N.I. -Comparto Scuola- 1999) - Anno scolastico 2001/02, in Educazione e scuola, http://www.edscuola.it/archivio/norme/circolari/cm155_01.html.

[106] www.istruzione.it

[107] Ministero della Pubblica Istruzione, *La via italiana per la scuola interculturale e l'integrazione degli alunni stranieri*, Documento messo a punto dall'Osservatorio nazionale per l'integrazione degli alunni stranieri e per l'educazione interculturale, ottobre 2007, P. 5.

takes into account the differences as a resource and a moment of enrichment for both locals and for foreigners (CNEL, 2008, pp.. 9-10).

In line with the project addresses presented by the Ministry therein, we will start, in 2007, the National Action of training for multicultural schools directors, oriented in particular to those schools with a strong presence of foreign students - and conducted through national training workshops and discussions among school leaders - and, in 2008, the National Plan for teaching Italian as a second language, oriented in particular to migrant students recently arrived to first and second grade secondary schools (Ongini, 2011, p. 3).

The brief discussion conducted so far reveals a significant wealth of statements of principle. However, facing a rather evolved legislation about these issues, one can not but notice the countless shortcomings in many Italian schools, where the inadequacy of the available financial resources adversely affects the possibility to carry out projects aimed at encouraging the development of language skills, the training of teachers, the realisation of language laboratories, the presence of cultural mediators and the support from local institutions, as well as the increase of initiatives to provide a better knowledge of the languages and cultures of origin and of aids from the social services in the area and funds proportionate to the needs of the projects often launched and then discontinued for lack of funds.

In conclusion, one has the impression that, on the issue of the integration of foreign students, "our schools are even equipped primarily to manage the first phase of the integration of pupils with non-Italian citizenship" (CNEL, 2008 pp. 12-13).

These limits require a decisive approach that can not be left to improvisation, but, on the contrary, has to be planned carefully.

In this regard, it proves essential to create a training system able to educate permanently and positively to the values and principles aimed at grasping the dignity of the human person without reserve; to consider the different - in our case the alien - as a subject of rights and duties and as a potential resource for the host country; to emphasize the importance of protecting certain inalienable rights that are proper to the human person; to realise educational interventions and initiatives of a clearly intercultural origin. In essence, the goal that should be pursued is to give life to a real cultural exchange through which stakeholders can learn to use their communication skills to interact with each other and to start a reciprocal and balanced relationship, based on active listening and respect of the differences.

3. THE LEARNING ACTIVITIES AND TEACHING IN INTERCULTURAL SCHOOL

In a cross-cultural perspective, the school has to educate the students to develop "a sense of belonging to humanity" (Santerini, 2006, pp.. 12-13) and a spirit of "brotherhood" capable of overcoming language and cultural barriers and aimed at enhancing the common universal principles shared by all humans.

Moreover, on a practical level, intercultural education must be translated into a series of training and educational activities to promote active listening, communication, respect and the ability to interact and engage with each other on a par basis and with the awareness that the other has its own way of thinking and manage their own feelings that must be accepted and respected (Portera, 1992, pp.. 219-221).

In the end, the school has to realise a series of training and educational activities aimed at promoting the processes of integration and learning, but, above all, it must focus on a solid intercultural training for the teachers. In this regard, it is essential to provide them with a valid and continuous professional training including also the acquisition of all the knowledge and the relational skills needed to effectively

carry out a process of intercultural education. In this respect, acquiring the concept of intercultural means, on the one hand, promoting in the students the ability to interact and relate to the other, and, on the other hand, working on themselves, on their way to relate to immigrant pupils and to consider their cultural differences, as well as: "Rethinking their teaching methods through a review of the contents and methods; adopting attitudes in favour of the establishment of a 'scholastic climate' of openness and dialogue in the classroom and to the development of a perception of diversity as an enrichment; and as a mutual access to new knowledge to be able to manage this complexity; adopting critical-reflective attitudes related to the experience in the teaching practices and an attitude of research in collaboration with groups of teachers and with the help of external experts, aiming at the realization of a project of research-action, which constitutes an active method of in service education and continuous updating"(Fiorucci, 2011, pp.. 79-88).

In the end, when relating to foreign students, we must always keep in mind that each of these students has his own life history, with its experiences, and a particular way of perceiving changes related to the migration experience and to the adaptation to the social reality and the culture of the host country. Furthermore, the barriers that immigrant students must face are many: just think about the difficulty of communicating and interacting with their classmates because of the lack of knowledge of the language and the inability to decode the implicit cultural system of the new society. This last difficulty, moreover, often causes a number of misconceptions and misunderstandings in the relationship with their colleagues and with the teacher him/herself and can give rise to a strong sense of disorientation due to the fact that, in addition to the ignorance of the new system of implicit cultural rules, immigrant students already "carry with them a parallel system of implicit rules relating to their own culture of origin, which in most cases are not known or are even subject to opposite interpretations in the culture of the host country" (Pinto Minerva, 2002, p . 44).

In order to transform these communication barriers into an opportunity for growth and mutual understanding for the students, the teacher must be able to recognize and be aware of the symbolic meanings and values of the cultures of the children in that class in order to understand their needs and promote common rules of coexistence (Demetrio, Favaro, 1997, p. 88).

As for the training and educational activities, if you want to realise a real transformation of the school in a inter-cultural sense, a radical revision of the programs, the organizational structures of the school, the languages and the relationship between the school and the area, as well as a rethinking of the teaching methods and the criteria of orientation, evaluation and selection, is more necessary than ever. In short, the goal that we must pursue is to implement a concrete renewal of the school on an intercultural basis.

Rethinking the teaching in an intercultural logic, therefore, means to cultivate also on a practical level those concepts of complexity, of otherness and of identity that are at the basis of the intercultural reflection.

In general, the commitment of intercultural education should not be limited to the mere transmission of that notional knowledge already set within the curricula. It should, instead, promote a relational climate of openness and dialogue and - through the trial of specific educational activities – lead the students to discover the differences and similarities, the respect for diversity and ways of thinking other than theirs, removing those prejudices that hinder the realization of a constructive dialogue.

The intercultural approach should also include the development of teaching methods designed to encourage the active participation of all pupils and to create, especially in the native students, a genuine interest and curiosity about everything related to the culture, the traditions and the customs of other countries, particularly those countries from which their foreign classmates come from.

4. CONCLUSION

Considering the results of the short close examination of the ministerial measures aimed at promoting the integration of immigrant pupils and an intercultural education in Italian schools at all levels, it seems important to pause and reflect on the primary objectives of the intercultural approach, which proposes, first, to overcome all those cultural patterns related to old stereotypes and prejudices, as well as the consequent fear of losing their security, or even their own cultural identity.

Obviously, intercultural dialogue does not claim to be as the solution to all problems related to immigration and integration, and doesn't either pretend to give answers to all the questions that may arise in this regard, however, it can definitely provide a valuable contribution "to the development of democratic stability and to the fight against prejudice and stereotypes, both on the social and the political level, and facilitate the development of alliances between cultural and religious communities, thus helping to prevent or mitigate conflicts, including in post -conflict or 'frozen conflicts'"[108].

To exit the logic of closure and individualism to get closer to the others also requires the effort to understand their needs and the innumerable difficulties related not only to the problems and misunderstandings that come from belonging to a different culture, but also the feelings of insecurity and inadequacy that the lack of reference points can arouse in an individual who finds himself living in a reality that does not belong to him and that, especially in the beginning, he is not able to handle. The intercultural relations require, in fact, not only the willingness to learn about other cultures and to recognize and accept differences, but also a commitment to put in the middle of the relationship the individuals themselves, bearing a specific cultural identity, with their life experiences, their hopes and their specific needs.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

ELIZABETH CLARK AND PRE-SCHOOL TEACHERS' TRAINING IN BULGARIA

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Abstract

The paper dwells on Elizabeth Klark's pedagogical activities who personally set up a private course for pre-school teachers' training. The author follows the course development which was supervised and monitored by Elizabeth Klark for more than thirty years; the author also focuses on the attitude of the Ministry of National Education towards the course and the number of the post-graduates during the years; the author also analyzes the school curricula applicable to the future pre-school teachers.

Key words: *education, pre-school teachers, training*

One of the most prominent figures in the sphere of pre-school education in Bulgaria is Elizabeth Klark. She was born in 1867 in the town of Plovdiv in a family of American missioners. Her father, James Klark arrived in Bulgaria to spread the protestant ideas and views. With respect to his missionary work he used to cross the Bulgarian lands preaching and interpreting the Bible as well as spreading the Bulgarian version of the Holy book [1,7]. Apart from his missionary work he took up the initiative to establish schools in Bulgaria. In 1860 he set up a boys' school in Plovdiv and three years later - a school for girls in the town of Stara Zagora. James Klark is the first who suggested that a school in Samokov should be opened. His son William also was eager to follow his father's missionary activities. His daughter Elizabeth, however, decided to dedicate her life to the education of pre-school children. She made the decision to establish pre-school educational institutions in Bulgaria and organize a training course for pre-school tutors. That decision was made under her father's influence who was rather familiar with the Bulgarian educational deeds and could easy conclude that the country was in need of public pre-school training.

Elizabeth Klark decided not only to start a campaign for establishing pre-school educational institutions in Bulgaria but also training pre-school teachers. The development of pre-school education is closely related to pre-school teachers' training. The first pre-school educational centers in the country were established at the beginning of the 70s in XIXth century. The first attempts of training and teaching the children at pre-school age in Bulgaria met with failure. The content of the educational process did not apply to the age peculiarities of the pre-school children. Its main purpose was to make children learn the letters and "be familiar with the words", as well as to get some idea what the table stood for. That was why the main method of teaching was based on sounds. The inadequate organization of the pedagogical process in children's institutions and the teaching material were the reason why "children are lying on their desk sleeping over their textbooks". The drawbacks of the educational-instructive work came as a result of the teachers' methods of teaching who were not acquainted with the Western-European teaching practices and the pedagogical system of the German padagogue Friedrich Frebel [10,162]. They did not have the professional training to work with pre-school children.

That was why with the establishment of the first pre-school institutions in Bulgaria the country found itself in great demand of qualified pedagogical teachers in kindergartens. The idea that the pre-school

teachers in Bulgaria should obtain a qualified training was developed, however, after Russian-Turkish war.

Until the World War One the future pre-school teachers were trained only by private tutors, specializing abroad, attending a private or state pre-school teachers' training course and in girls' high schools. The founder of the private course is Elizabeth Klark.

She was born in 1867 in the town of Plovdiv and spent her childhood years in Plovdiv and Samokov. After that she studied in Tsarigrad (Istanbul) and America. In Chicago she finished a pre-school teachers' college. After her graduation she left America and came back to Bulgaria. That happened in 1897. In the following year she opened a kindergarten in the town of Samokov. Twenty children were admitted to study in it. Elizabeth Klark was a teacher in the kindergarten. Kaliopa Sechanova worked along with her, who helped her in the mornings to organize the pedagogical process of the pre-school institution, and in the afternoons she carried out the theoretical activities. Kaliopa was the first pre-school teacher who was trained by Elizabeth Klark [7,24]. Probably the Secondary girls' education law from February, 1897, was one of the main reasons why Elizabeth had decided to set up a private pre-school teachers' training course.

The law, which was issued during the ruling of the Minister of education Konstantin Velichkov, put an end to pre-school teachers' training in girls' high schools. The motives mainly concerned the drawbacks of the simultaneous training of both pre-school and primary teachers [2, 1198-1200].

In 1900 Elizabeth Klark decided to set up an elite kindergarten in Sofia which was known as "American kindergarten". At that time the pre-school educational centers were officially called "children's school". It was popular in Bulgaria as well, but its legal title was "children's school".

Along with the tuition of children in the kindergarten, a private pre-school teachers' training course was established in the boundaries of the kindergarten institution. The first student of the course was Krastinka Boyadzhieva. She got the first pedagogical diploma which was signed by Elizabeth Klark. The reasons why there was only one student in the course are not known. The limited number of students in the pre-school teachers' training course in the following years could be put down to the head of the course herself. It was also possible that there were not enough applicants. If that was the reason this could be due to the fact that the salaries of pre-school teachers were rather low. That's why a bigger part of the students after graduation made their choice to work as primary teachers since they were better paid or they could decide to find a job in other spheres. Another part of the students were not able to find a job at all. According to L. Dorosiev who at that time was a deputy chief of the Ministry of National Education, focused on the fact that there were only a few pre-school institutions in the country – 23. They were located in the regions of Burgas, Plovdiv, Sofia and Varna. There were six pre-school institutions in Burgas region. In Varna region – no more than 11 and in Plovdiv region – 5. There was only one pre-school in Sofia. L. Dorosiev pointed out that their number was less than it was fifteen years ago. He considered that the National Education Law from 1891 set a normative basis for their development, but the society was still passive in showing interest in public pre-school education. It was necessary especially in frontier regions where the population was of Greek, Romanian and Gagaouz origin. It was important that the children from the minorities should learn Bulgarian language which led to the need of pre-school institutions where the children could easily learn and adopt the Bulgarian language and traditions before entering primary school [3,91]. The girls from the girls' high school might probably find it difficult when in search for a job since many schools were closed. As a result of bad hygienic conditions in 1889-1902 around 50-60 schools were closed per year [3,93]. That also led to closing of children's schools which had been previously established as affiliated institutions of the schools.

The last students who were simultaneously trained as children's and primary teachers, graduated in 1901-1902 school year. The Ministry of National Education did not look for other opportunities in training pre-school pedagogical specialists. Elizabeth Klark was familiar with that fact. The head of the course realized that there would be a shortage of pre-school teachers in the years to come. Probably that was one of the reasons why she decided to build a separate building where the kindergarten and the course could be set in.

In 1905 Elizabeth Klark built a three-storey building designed to be a kindergarten; a place for training pre-school teachers and a dwelling place as well. That was the first specialized building for pre-school education in Bulgaria which was materially grounded. Better conditions for pre-school training were further established and maintained.

In 1901-1902 school year two students were trained there, Aneta Ignatova and Nataliya Grancharova. Until the beginning of 1910-1911 school year there were already 11 post-graduates and another three who were still studying.

In 1910-1911 school year the students started the initiative to popularize the ideas of public pre-school education. They gave lectures aiming to inform the society about Friedrich Frebel's pedagogical system and the educational activities in kindergarten. At that time the pre-school educational institutions were few. Elizabeth Klark realized that the country was in great need of such institutions and assisted by her charges decided to spread the idea of public pre-school education.

In 1912 she opened an affiliated branch of the Americam kindergarten in "Ucbunar" neighbourhood, where the children in the lowest income bracket were admitted. The pre-school teachers were being trained at that time in the central kindergarten and the affiliated branch who at that time were four in number [7, 26].

Typically, the training course comprised a limited number of pre-school teachers. Until 1919 only 19 girls were trained who undoubtedly could not satisfy the huge demand of pre-school teachers.

The popularity which the course gained in training pre-school teachers and the kindergarten itself, is the reason why the students in "Pedagogy" university subject in Sofia University have their pedagogical training course in pre-school institutions. Though the kindergarten is not only visited by students but by school inspectors as well, whose intent is to be acquainted with the conditions in the American kindergarten and the pedagogical process in the institution.

Irrespective of the achieved results in the training of the future pre-school teachers, the Ministry of Public Education refused to employ in the state kindergarten the already graduated pre-school teachers stating that the course was private [3,26]. That resolution of the ministers, however, did not influence the pedagogical activities of the head teacher. She continued to work devotedly for developing the pre-school education. Elizabeth Klark organized extra courses in the country which aimed to increase the qualification of the pre-school teachers [3,26]. At that time a big percentage of unqualified pre-school teachers worked in the kindergartens. She ran courses for these teachers in order to present and teach them the content of the educational work in kindergartens. With that initiative she hoped to improve the professional skills of the participants in the course and the quality of the pedagogical process in kindergarten.

The private course for pre-school teachers' training in the American kindergarten during the two wars was not in progress. After the First World War the Ministry of National Education was headed by Stoyan Omarchevski. During his administrative control the National Education Law was issued. With reference to article 21 of the respective law only qualified primary teachers or teachers who had done specialized

courses could work in pre-school educational institutions [4]. Though the Minister of National Education Stoyan Omarchevski allowed, according to the new legal document, primary teachers to work in kindergartens, he realized that pre-school teachers were in need of special education. That was the reason why the minister legalized the pre-school teachers' training course for pre-school educational institutions in the American kindergarten in Sofia. That became explicit in the official state regulation N 19125 from 16th.VI. 1921 г., addressing the regional school inspectors and the school inspector in Sofia. The official issue was sent to them so that they could popularize the course in front of primary and elementary teachers. It states that the head teacher of the American kindergarten Elizabeth Klark opens a two-year pre-school teacher's training course. Only applicants with secondary high school certificate or pedagogical education could be able to apply. The Ministry recommended the course focusing on the fact that the graduates would be given priority when being employed with regard to some others who would have studied in other courses [4, 234-235].

The Ministry of National Education recommended the course since it realized the importance of education in the development of pre-school children and was eager to expand the network of preschool institutions. The country needed qualified pedagogues. It was obvious that the minister himself was convinced that the course helped the teachers obtain the necessary education and skills. This highly motivated the educational institution and the course was officially acknowledged. That was a huge success for Elizabeth Klark who in the following years worked avidly so that she could train adequate and efficient pedagogues in pre-school institutions.

After the wars the first and second-year students studied the following subjects: Frebel's theory and practice of the method, life and work of the prominent pedagogue, music, child psychology and pre-school education, English language and piano. There were extra classes, known as "conference", in which the students discussed certain problems and topic arisen in the process of training.

Apart from these disciplines the second-year students studied history of pre-school pedagogy, painting and hand-made art, as well as subjects which aim was to prepare the young ladies for their family life – family ethics, how to create a family atmosphere and other disciplines [7,45-46].

The curriculum shows that the students were mainly acquainted with the pedagogical system of the German pedagogue Frebel. Though at that time, in the 20s, in Bulgaria the pedagogical ideas of Maria Montessori were not new in Bulgarian pedagogical circle. She took a main part in the development of public pre-school education all over the world. Certain reformative ideas were also spreading at that time in our country concerning pre-school education. Elizabeth Klark could not be unfamiliar with the method of projects, but most probably she did not teach it or if she did it was not singled in a separate discipline such as the Frebel's pedagogical system. She did her best to spread his system in the state.

D. Lazov, a school inspector from Sofia in 1920, organized a pre-school teachers' conference for those who had graduated the high school. A graduate from Frebel Institute in Dresden, Germany, Evgeniya Milkova, presented a report. She and Elizabeth Klark went into a discussion in which the latter defended the new ideas of the overall education, and Evgeniya Milkova – the Frebel's ideas. The participants in the conference also observed certain practical activities in the American kindergarten [5,8-9]. That fact shows that the Elizabeth Klark's pre-school educational institution continued to gain recognition in the society. Thanks to its head it turned into an educational-instructive institution which educated and trained not only pre-school teachers but had also qualified working teachers. The discussion between Evgeniya Milkova and Elizabeth Klark proved that the latter adopted the theory of the overall education. In America that branch of the reformative pedagogy is popular under the name of "project method". It was successfully distributed there. Elizabeth Klark adopted the idea that elements from various pedagogical systems should combine in the pedagogical process.

The need for prepared qualified teachers in the kindergartens asked for respective actions on the part of the Ministry of National Education. As a result of it the Ministry officially allowed Evgeniya Milkova to open a second private course in 1921-1922. Unlike the course in the American kindergarten which typically lasted for two years that new course lasted a year. The disciplines in the course were taught by Evgeniya Milkova herself. The students studied the following disciplines: pedagogy, psychology, Frebel's method, story-tales, games, songs, crafts – cardboard sewing, stitching, marching. The training was run in Evgeniya Milkova's home, and the games in the gym of the First girls' high school. The pedagogical practices were carried out in the children's home "Mother's care". On 12th, July, 1922, 10 students successfully finished the course [6, 34].

The comparative analysis of the curricula of both courses show that the content of the teaching material was quite different. In Elizabeth Klark's course there were disciplines which were not taught in the second pre-school teachers' course: music, children's psychology and pre-school education, English language and piano. Important subjects were the history of pre-school pedagogy and art. The latter were not taught in Evgeniya Milkova's course. It is a curious fact that Elizabeth Klark included disciplines which trained the future pre-school teachers for their family life as well. The head teacher of the course was eager to prepare her students not only for teacher's profession in pre-school institutions but also to prepare and train them for being good housewives and mothers. At that time such disciplines were not included in the curriculum of the pedagogical schools. The longer courses that Elizabeth Klark offered provided the girls with a better training and education.

The pre-school teachers' training courses comprised a limited number of girls. Until 1919 only 19 girls finished the course who could not satisfy the increasing demand in the country for pre-school teachers.

In 1925 the head of the course Elizabeth Klark in pre-school teachers' training of the American kindergarten in Sofia left for America with her charge Penka Kasabova, who was admitted to the American kindergarten in Sofia in 1919. The first two years she studied under the guidance of Elizabeth Klark. At that time she was the only student in her course. After graduation she started working as a pre-school teacher in the same kindergarten.

In 1927 Elizabeth Klark and Penka Kasabova came back to Bulgaria. Elizabeth took the ruling of the course, Penka Kasabova, on her part, got a job as a pre-school teacher in the kindergarten. The two teachers immediately took up the challenge to change the educational curriculum of the students.

A special place was given to disciplines related to the artistic-aesthetic circle, which were taught by outside lecturers.

A great interest was shown with respect to the versatile forms of practical activities. There were practical training classes in the first and second year of education. During the first half of the year the first-year students were only viewers. They took the part of the children, playing, singing and other activities. In the second half of the year they were already assistant-tutors. They assisted the teacher taking part in the organization of the children activities, in plays and singing. The students also had the task to monitor the children with specific educational needs.

At the beginning of their second year of studying under the guidance of the pre-school teachers they implemented different regime moments and at the end of the second year they already organized the whole daily regime which was carried out in the main kindergartens. The head of the course monitored the students' activities and during the time of conversing she supported them analyzing their mistakes and handicaps so that they could better organize their practical work. In practical classes the tutor in Practical classes and pre-school pedagogy decided whether the classes would be group - or individually oriented. The former were run in the afternoon in class, whereas the latter were carried out in

kindergartens. The head teacher afterwards made a psychological-pedagogical analysis of the practical work and answered questions.

At the end of the course the students sat a theoretical exam in pedagogical disciplines and a practical exam in the kindergarten. Before the last exam they passed a trial practical period in a children's group where the practical exam was typically taken. It also ended in a conference [7,45-48].

The analysis of the updated curriculum shows that there were more pedagogical disciplines in it. Vera Nacheva – Petkova points out that the discipline 'pre-school education' was taught, not 'pre-school pedagogy'. She might probably have made an involuntary mistake since in the curriculum there was a subject such as pre-school pedagogy. She may have wrongly written the name of the discipline. Irrespective of the name of the discipline it becomes clear that a separate pedagogical discipline was taught which dwelt on topics concerning pre-school children's training and education. Until that moment there had not been any data that such a subject was present in the curriculum followed by the pre-school teachers. Consequently it could be assumed that this discipline was taught after the WWI. Most probably the first lecturer in pre-school pedagogy was Elizabeth Klark.

Later, however, the name of the discipline was changed to "children's psychology and pedagogy". For example in the curriculum pointed out by Vera Nacheva-Petkova, which might have been active at the beginning of the 30s of XXth century [7.48].

It comprised disciplines such as : theory and practice in Frebel's method, children's psychology and pedagogy; note literacy, children's songs and music culture; the meaning of story-telling and the way of interpreting story-tales; children's hygiene; painting and designing; hand-made and artistic activities; piano lessons; household culture and history of pre-school education. Elizabeth Klark taught the discipline "theory and practice by Frebel's method". She devotedly told her students about the pedagogical work and activities of the outstanding pedagogue. The head teacher of the course along with her associates decided to popularize his and other pedagogical systems.

On 24th, November, 1928 those who graduated the pre-school teachers' training course set up "Friedrich Frebel" association. Among its founders were: Elizabeth Klark, Penka Kasabova, Vera Nacheva-Petkova, M. Periklieva, V. Lazkova, M. Bizeva and others. They set the following tasks:

- to spread the new educational ideas in the country and help in the process of applying them;
- to protect the children's rights;
- to understand the child's needs and support him/her in their overall development;
- to establish cooperation and solidarity among the members of the association;
- to give a testimonial to the pedagogues [6, 192].

It becomes rather obvious from the above said that the founders of the association were eager and willing to modernize the educational-instructive process in kindergartens and master the professional skills of the pre-school teachers. The initiators of the association suggested that they could take part in the process of giving a testimonial to the pedagogical specialists. In that way they thought that they would maintain the high quality of the pedagogical activities of the pre-school teachers. Their idea of protecting children's rights was extremely valuable, adequate and up-to-date.

In the course for pre-school teachers' training associated with the American kindergarten from 1923 to 1932 a number of eighty-seven girls studied. In 1923 three students finished successfully, in 1924

another three, in 1925 – 2, in 1926 – 3, in 1927 – 5, in 1928 – 9, 1929 – 8, 1930 – 6, 1931 – 22 and in 1932 – 26 [5,49]. A bigger part of them got a job in kindergartens. The professional training that the students obtained in the course gave them the opportunity to make progress in their pedagogical activities. Unfortunately some representatives of the local authority refused to employ them claiming that the course was protestant-oriented. That was the case with Vera Parashkevova, who had difficulties when trying to apply for a position in a part-time kindergarten in the town of Varna. Indeed, Elizabeth Klark, irrespective of the fact that she was a protestant, she personally had never persuaded her charges to adopt the protestant beliefs. Consequently, it is rather irrational and groundless that the course be defined as protestant-oriented.

In 1932 Penka Kasabova became the head teacher of the pre-school teachers' training course in the American kindergarten, and Elizabeth Klark left for Knezha, where she established another kindergarten. Regardless of the fact that she was no longer a head teacher of the course the ruling members in the government could not ignore her contribution to the development of the public pre-school education in the country.

On 16th, April, 1937 the students in the course of the American kindergarten organized a celebration with respect to the 100th anniversary of the opening of the first kindergarten in the world. That holiday was dedicated to the opening of a kindergarten by Friedrich Frebel. It became obvious that it was not known in the country that there had been other kindergartens before Frebel's pre-school educational institution. In that respect the organizers of the event pointed out that the forum was dedicated to the first kindergarten established in the world. Elizabeth Klark was given an award by the Ministry of Public Education, "Cyril and Metodius" badge, I level for her huge contribution to the development of the pre-school education in Bulgaria [6]. That award was an expression of the public gratitude with respect to her dedicated work not only for the development of kindergarten institutions in Bulgaria but also in pre-school teachers' training.

More than 30 years Elizabeth Klark made great efforts to train pre-school teachers in Bulgaria. Thanks to her initiative highly qualified pre-school teachers were trained who on their part established kindergartens and popularized the ideas of public pre-school education. Despite the fact that she had American background, Elizabeth Klark worked devotedly for years for our pre-school education. She has left her undeniable marks in the history of Bulgarian pre-school educational institution.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

THE STRATEGY OF EQUAL APPROACH TO STUDYING WITHOUT BARRIERS IN UNIVERSITY ENVIRONMENT FOCUSED ON THE UNIVERSITY OF OSTRAVA

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Abstract

The following article outlines the system of tertiary education in the Czech Republic, with emphasis on the education of students with special educational needs at the University of Ostrava. It informs about the progress of the project The Support of Tertiary Education of Students with Special Educational Needs at the University of Ostrava (reg. no. OP VK CZ.1.07/2.2.00/29.0006), its outputs and mechanisms supporting equal education. The aim of the project is creation of inclusive university environment that is ready to accept students with special needs. The text thus presents the process of innovation of study conditions for all students, but with full respect to a priority requirement, which is the completion of a studied subject in the scope given by proper accreditation.

Key words: *tertiary education, student with special educational needs, college, university, integration, inclusion, projects, innovations in education.*

1. THE UNIVERSITY EDUCATION IN THE CZECH REPUBLIC

International Standard Classification of Education (abbr. ISCED) was prepared and issued by UNESCO in 1976. In 1997 the General Conference of UNESCO approved changes concerning the level of education and also the field of study. The classification of ISCED from 1997 has 7 levels of education (0 to 6), which can further have an internal structure from A to C. In our conditions the levels ISCED 5 and ISCED 6 represent university education comparable to other countries. In the Czech Republic as in other countries (e.g. Slovakia, Poland) since 2001 has existed structured three-level university education. By that the level shows the reached degree of education. The first degree of education is the bachelor's study, the second degree of education is the master's study and third – the highest degree of education is the doctoral study. The number of active students at all levels of university education is increasing every year. In 2001 there were about 203 500 registered students, in 2010 there were already 396 300. The highest share has the bachelor's study – 62 % of students, followed by the subsequent master's study – 22 % of students, then master's unstructured study (preserved in selected subjects, e.g. General Medicine, Teaching for Primary Schools) – 10 % of students, and doctoral students represent total of 6 % of students registered in 2010. (CZSO, online) At the university the education is implemented in three forms – full-time, combined and distance.

Education is provided by state (2), public (26) and private (44) universities. If higher vocational school obtains an appropriate accreditation for given field of study of university education, it can provide the university education in this subject (usually it concerns the first degree). The accreditation to all schools is given by the Ministry of Education, Youth and Sports of the Czech Republic. The Accreditation Commission of the Czech Republic is an independent council that deals with the quality of university

education. For this purpose the Accreditation Commission carries out comprehensive assessment of educational, scientific, research, artistic or other creative activities of universities. (AC, online)

1.1 Education at the University of Ostrava

The University of Ostrava is one of the 26 public colleges in the Czech Republic having the status of a university. It has 6 faculties (Pedagogical Faculty, Faculty of Arts, Faculty of Medicine, Faculty of Science, Faculty of Fine Arts and Faculty of Social Studies). Individual faculties offer subjects of bachelor's, master's or doctoral degree. The University of Ostrava has been awarded the prestigious European certificate, which demonstrates that the school teaches on the same principles as traditional European universities. It is the ECTS Label Certificate and it is awarded by the European Commission. In 2012 at the University of Ostrava 10 637 students studied in bachelor's, master's (long and short) and doctoral programmes. 70 % of students studied the bachelor's programmes and subjects (out of which 69 % were in full-time programmes, and 29,3 % in combined programmes and 1,4 % in distance study programmes). 6,9 % of students studied long master's programmes, the number of 20,1 % students studied in subsequent master's programmes (out of which 73,9 % of students in full-time programmes and 26,1 % of students in combined ones). 3,4 % of students studied in doctoral programmes. At the University of Ostrava study in total 68,6 % students in full-time programmes, and 27,9 % of students in combined programmes and distance ones. (Annual Report of the University of Ostrava, online 2013)

2. ON THE WAY TO INCLUSION IN THE EDUCATION AT THE UNIVERSITY OF OSTRAVA

The society approached people with disability in different ways in particular historical periods, usually the tendencies cannot be judged positively. An equal approach to people with disability did not mean a lot to the intact society. Even today, this topic is rather ambiguous. There are still ongoing expert discussions about the scope and methods of ensuring equal approach towards people with disabilities, both in the general social, educational and professional, as well as in the family context. Many questions have not been answered yet. The specialists explain the term "equal approach" variably, inconsistently, sometimes even ambivalently. Perhaps only because it is about relativism, and also because, with respect to the subject of interest of the special pedagogy, it is necessary to perceive the person (with or without disability) in an individual way. About the concept of inclusive education in relation to pre-school education, primary and secondary levels of education, we can find quite a number of research studies of domestic or foreign origin. The tertiary level of education with respect to special educational needs of students with disability is scientifically explored only a little. In the following paragraphs there are outlined the realized research and developmental activities, in which the authors of the text were participating actively or they are still participating and on which they build the way to inclusion, i.e. the way to equal approach in the education of students with special educational needs.

In the academic year of 2012/2013 a total of 34 students with special educational needs studied at all faculties at the University of Ostrava. For a long time the authors of the article have been engaged in research and developmental projects, where the target group consists of children, pupils and also students with special/specific educational needs. Between years 2008 - 2011 at the "Centrum Pyramida" ["Pyramid" Centre] - the centre of support for students with special educational needs – they worked or co-worked on developmental projects focused on supporting the integration of students with health disabilities. In 2010 they dealt with a research called *"Education of Pupils with Special Educational Needs from the Perspective of Frame Educational Programmes"*, it was followed in 2011 by further research project called *"Analysis of Key Determinants Influencing the Process of Education of Children,*

Pupils and Students With Special Educational Needs in the Context of Frame Educational Programmes." In 2012 they worked on a research with the topic *"Analysis of Determinants Influencing the Education of Students With Special Educational Needs at the University of Ostrava."* The last mentioned research project was done parallel to currently running developmental project from European Structural Funds within the Operational Programme for Competitiveness (2012 – 2015) with the name of *"The Support of Tertiary Education of Students with Special Educational Needs at the University of Ostrava"* (registration number: CZ.1.07/2.2.00/29.0006). It is a university project, in which all the faculties are involved. The project concept is based on the philosophy from the Convention on the Rights of Persons with Disabilities, based on the Act no. 198/2009 Coll., on Equal Treatment and on Legal Means of Protection against Discrimination and on Amendment to some Laws. It is in accordance with the Charter of Fundamental Rights of the European Union, which explicitly prohibits discrimination against the disabled. Further it follows the National Plan for the Creation of Equal Opportunities for People with Disabilities for 2010 – 2014, which states a claim that a person with health disability is offered a reasonable modification according to individual needs and education. It is also in accordance with the National Action Plan on Inclusive Education, which was approved by the Government of the Czech Republic in 2010. In the specific strategic objectives in the sphere of education in the Long-Term Strategic Plan of the University of Ostrava for 2011 – 2015 there is besides other things mentioned an active support for students with specific needs. A practical objective of currently solved developmental project *"The Support of Tertiary Education of Students with Special Educational Needs at the University of Ostrava"* is a creation of supportive measures to equal education so as the modifications of study and educational procedures come out of evaluation of specific needs of a student with special educational needs, not from the nature of their health disability. The implementation of the project counts on coordinated cooperation of academic and other university staff. Its contribution is structured into 5 key spheres: innovation of study programmes, fields of study and subjects, increase of professional competences of academic and other staff, implementation of a system monitoring the needs of the labour market for the graduates, architectural accessibility of buildings for students with special educational needs and creation of an inclusive environment.

The starting point of the key activities included in the project is a principle that *the university is obliged to accept a student with specific needs, if the possible adaptation of study does not prevent the graduation in the studied field in the scope given by proper accreditation, only with modification of formal (technical and organizational) side of the study*. The primary aim of the wide research team is to find out and verify the possibilities and circumstances of the adaptation of study for students with specific needs. For this purpose the strategy of innovation of study subjects in the selected field of study was chosen. The basic principles of innovation are based both on respect to the demands of the university for graduating particular subject, and also on the respect to special educational needs of students with health disability. The scope of specification of special educational needs of a student and of studying conditions including their possible modification is due to the variability of symptoms of health disability individual and it is based on number of factors, not only the type of disability and the content of a study plan. The university education in addition puts a considerable demand on a student in the sphere of social and speech communication, work with written texts, work with symbols and graphics, multimedia work (audio-visual materials), demands on the usage of technologies, or working with physical material during lessons and while studying, etc.

The precondition for creation of equal opportunities to study and at the same time the central philosophy of this project is the understanding of the term "special educational needs", the understanding that every person with health disability needs individual level of help or compensation for satisfaction of basic human needs, where the need for education belongs as well. This help, however, does not mean any

exceptional need, but a set of measures that lead to enable access to the possibility of fulfilment and realisation of one's basic needs. By the set of measures is understood a summary of service activities provided by the university, which arise from the requests for functional diagnostics according to the currently valid typology of students with special educational needs.[109]

The service measures include, e.g. access to study literature, recording / visualization services, interpreting services, individual education, study assistance, personal assistance, spatial orientation training, diagnostics, overhead measures, time compensation, etc. To make the university accessible for people with health disability requires to create environment, which is characterized by understanding the differences of students, by the atmosphere of perception and empathy in the relation to special educational needs of students arising from the presence of disability, as well as to create an easy-access (communicative, informative, architectural). During education further basic needs of human must be also satisfied, i.e. the sense of security, belonging, mutual respect, which are not defined by any directive or decree, but which belong to the set of supportive measures inseparably. Equal opportunities can be created only by mutual active approach both from the side of students with specific needs, and also from the side of the university. The Centre of Support for Students with Special Needs ("Pyramid" Centre) has the coordinating role in the whole process at the University of Ostrava. The aim of accessibility of education is not to create a "greenhouse environment", in which we would create the barriers, but to modify conditions of entrance examinations, study conditions and study environment so as on the contrary we can break down the barriers. The parts of the project are thus mandatory courses to increase personal and professional competences of academic and non-academic staff of the University of Ostrava.

3. THE INNOVATION OF FIELDS OF STUDY AT THE UNIVERSITY OF OSTRAVA

The project involves the staff of all the faculties of the University of Ostrava, while the innovation concerns mainly fields of study resulting from the internal analysis for education of students with special educational needs at the University of Ostrava. Those are e.g. the fields of study like Teaching for Pre-Schools (Pedagogical Faculty), Teaching for Primary Schools (Pedagogical Faculty), Special Pedagogy (Pedagogical Faculty), Information Technology (Pedagogical Faculty), Pedagogy (Pedagogical Faculty), Social Pedagogy (Pedagogical Faculty), Applied Information Technology (Faculty of Science), Physiotherapy (Faculty of Medicine), Occupational Therapy (Faculty of Medicine), Medical-Social Care (Faculty of Social Studies) and others. The internal analysis was done before submitting the project application and so it also became a motivating and supporting material for creating the project.

The aim of the key activity focused on innovation of the studying subjects is the adjustment of studying and educational procedures based on evaluation of specific needs of a student with special educational needs, not on the nature of their health disability. It is necessary to stress that the features of the innovation of studying and educational procedures including the demands of students with special educational needs are of inclusive nature because at the same time they can improve educational possibilities of all students at the University of Ostrava. Innovated subjects will be offered to students as substituting or supportive.

- A substituting subject (compulsory or compulsory elective) considers a modified structure of completing the subject, which is a part of the studying plan. The modification must not change the *aims*

[109] The Rules for Provision of Grants and Subsidies to Public Universities by the Ministry of Education, Youth and Sports, no.MŠMT-1325/2012-33 from January 17th, 2012, specifying the financing of the increased costs for education of students with specific needs.

and the content of the subject or the obtained qualifications. On the contrary, the modification is expected in the *requirements for a student* (solely from the organisational, technical and material perspective, not as regards content)[110], *educational methods, assessing methods and categories of studying*, which means all the activities a student performs to reach the studying output. We must always take into account adequate and acceptable modifications in accordance with the conditions for completing the subject. For example an oral exam of a student with strong hearing impairment would take place with the presence of an interpreter into the Czech sign language, a student with strong visual disability obtains the credit through verbal presentation, conversely, in the case of a student with strong hearing impairment through written task fulfilment. Other possible modifications include increasing the amount of time for fulfilling tasks, studying assistance services, personal assistance services, the usage of special tools, the adjustment of the environment, etc.

- A supportive subject (elective) means creating a new subject that a student chooses to be able to meet the requirements of the studying plan (e.g. a student with strong hearing impairment chooses a subject focused on teaching Czech language in order to understand the terminology of the given field, etc.).

The outputs of the key activity focused on the innovation of subjects also include modified educational documents closely related to the innovated subject (see table no. 1). Studying support in a digital form accessible to all students takes into account a large amount of possible demands (even before they are claimed by individual students). It is a desirable non-discriminating approach that the universities should consider a part of the anticipation of the requirements of students with special educational needs. If the subject contains e-learning features (e.g. the lecture takes place in a virtual environment), it must be accessible for all the students of a specific subject or such an adjustments must be implemented that enables the students with disability to access equivalent educational opportunities (e.g. for a student with strong visual disability). During the project a pilot testing will be done on 20 innovated subjects within those fields of study, where students with special educational needs are currently studying. Their participation is necessary in order to identify possible obstacles in studying and evaluating innovated subjects.

Table 1. The overview of the outcomes of key activity focused on the innovation of the field of study.

The Outputs of Key Activity	**No. of Products**
Innovated subjects for students with specific educational needs (SEN)	100
Innovated subjects for students with SEN tested in pilot testing	20
Studying support in electronic form	100
E-learning courses	35
Adaptation of courses (educational CD)	35

[110] What a student must do to meet the requirements of the subject (lecture participation, continuous fulfilling of correspondence tasks, handing in an essay, etc.)

The Outputs of Key Activity	No. of Products
Adaptation of courses (educational DVD)	35
Methodical recommendation for further creation of the innovation of subjects	
Methodical recommendation for following accreditation and reaccreditation processes of chosen fields of study	

4. OTHER MECHANISMS TO SUPPORT INCLUSIVE EDUCATION AT THE UNIVERSITY OF OSTRAVA

The key activity focused on increasing professional competences of academic and other staff of the university aims to prepare the staff to possible difficulties that students with special educational needs and also the staff involved with them meet. One of the outputs is the course Students with Special Educational Needs at Universities (K1), a course focused on methodological preparation of lectures and the creation of presentations using modern technologies (K2), Sign Language Course – beginners (K3), Sign Language Course – advanced (K4), a course supplemented with practice or fellowship in chosen workplaces, focused on modification of electronic texts for readers with visual disability and also focused on work with digital library for students (K5) and a Course of Personal Assistance (K6). The aims of the activity are based on the precondition of the necessity of increasing the competence of the university staff in the sphere of communication with individuals with health disability. It involves gaining information, pieces of knowledge and competences.

Table 2. Courses for the university staff.

Course	K1	K2	K3[111]	K4[112]	K5	K6
No. of successfully supported staff members	79	78	8	8	81	taking place in winter term 2013

The system of monitoring the needs of labour market provides the university graduates with published works and conference outputs. Empirically there is investigated the monitoring and work success of students with special educational needs with regard to current trends in the employment policy. It involves updating the *Methodology of Support and Balancing the Conditions during Studying of Students with Special Educational Needs at the University of Ostrava* (the latest version in 2012), with methodological recommendation to provide occupational fellowships of students with special educational needs and students with socio-economic disadvantage. The point is to strengthen their competitiveness. The completion of these partial steps results in the creation of a list of fields of study suitable for candidates with special educational needs at the University of Ostrava, a report about the possibilities of success of students with special educational needs at the labour market after they

[111] Will be repeated in the following academic year.

[112] Will be repeated in the following academic year.

graduate from the chosen field of study and methodological recommendation for realisation of fellowships of students with special educational needs at the University of Ostrava.

Table 3. Students' occupational fellowships.

Students with special educational needs (minimum of/participated so far)	**Students with socio-economic disadvantage** (minimum of/participated so far)
5/1	5/2

The presence of no barriers in education is ensured by building modern easy-access elevator in the historic building of the university, by installing two platforms for wheelchairs and also by web interface called Inclusive Environment, which aims to start and support communication of people at the university. The staff (academic and other members) and students (intact, and with disability) at all the faculties are motivated to actively communicate with each other about topics solving equal approach in education and various life situations connected with this problem.

Table 4. The number of registered users in the Inclusive Environment.

Inclusive environment (web interface)	**No. of registered users**
Students with special educational needs	13
Intact students	746
University staff	43
Total	802[113]

The Inclusive Environment offers communicational panel "Ask us", where students with special educational needs are logged in using their personal profiles. This enables an open communication with students who showed willingness to share their personal experience. The panel "Stories" contains five sections (My Family; Something I Would Like to Tell Others; A Person With a Disability Can Study at a University; The Importance of Volunteering; My Experience with the Disabled), that offer categories of contributions of those students or university staff members who wanted to share their own or interpreted life stories. Discussion panel contains altogether 5 topics focused on fighting prejudices and stereotypes, it also focuses on the problems of education of students with specific learning disability, equality in education, etc.

[113] As at a date of August 18th, 2013.

5. CONCLUSION

We face the problem of integrative and inclusive education of persons with health disability at all educational levels. The academic community should observe current development and react adequately. We can expect a continuous increase in the amount of active students with specific educational needs (SEN). The University of Ostrava is on the way to equal approach – to creating inclusive environment for students with special educational needs. Thanks to the realisation of research and developmental projects it creates equality in the system of tertiary education. However, the necessary mechanism of inclusion is the coordination of all the bodies taking part in both direct and indirect pedagogical activity, administrative agenda, related to the course of the studying of intact students as well as students with special educational needs. The necessary part is the still developing tool of the support of personal and professional competences of all the staff at the University of Ostrava in the approaches (attitudes) to people with health disability (e.g. courses focused on assistance, adaptation of studying materials, sign language, etc.). At the same time it is necessary to create a system offer of the above-mentioned tools for all the students at the University of Ostrava. Even though the process of creating inclusive university environment at the University of Ostrava has already started, the length of its track is not given as it is a continuous and complex activity aiming to change studying environment and conditions.

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Journal of International Scientific Publication:
Educational Alternatives, Volume 11, Part 2
ISSN 1313-2571, Published at: http://www.scientific-publications.net

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