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LEXICAL VARIETY OF THE CHILDREN IN PRE-SCHOOL AGE AND THEIR DISCOURSE SKILLS IN PICTURE STORIES

Gergana K. Gabrovska
South-West University „Neofit Rilski“, Ivan Mihaylov str., 66, Blagoevgrad, Bulgaria

Abstract

Pre-school age is a sensitive period for mastering the command of the language functions. Due to the forms of monolog coherent speech, as a supreme language ability, the child reveals not just its mental potential, but its experience as a linguistic personality, including the wealth of the language, because this is the optimum age for enrichment of the vocabulary. The following report presents a research for the variety of the language, which was used in the monolog speech of children in the period from 5 to 6 years of age, nurtured and brought up in the conditions of a modern kindergarten. The analyzed data is based on 25 individual picture stories based on different subjects, emphasizing on various aspects of the children’s lives. The results were analyzed by comparative method, according to the degree of innovation and the independency of the display of the subject line.

Key words: discursive skills, cohered speech, development, analysis, story

The uninterrupted searching for answers is a typical feature of the intensive personal development in the period from 3 to 7 years of age. In addition to apprehend these answers firstly it is necessary to acquire the forms of the native language. As the work of learning the language is getting more intensive, such as formulating language flair and acquaintance of the verbal speech, the easier it will be to examine reality and the aspiration for knowledge will be stronger. This means that all bases for complete intellectual development will be secured. The external environment has a special influence over the growth and development of the child – it can accelerate it and on the other hand to hold it up. Moreover, in the external environment things such as bad abilities, dialectal forms, prime phraseology and lexis, incorrect word order are easy to adopt. Later on, when the child is already in primary school, this is a bigger problem, because there is already language and self-control. That is why the purposeful language education in the period from 3 to 7 years of age in the conditions of the kindergarten helps for the accelerated correct and versatile development of children speech.

Basic aim of the education of native language in the kindergarten is to form correct verbal speech and to create an ability of verbal communication with others using the literary language. One of the main tasks of the speech development is to establish and to stimulate a coherent speech. Also, this is the first form of communication between the child and the adult. The development of the cohered speech is a leading part among the other tasks of the language learning. This advancement is accomplish gradually, starting with the simple forms and going to the complex one and it is directly connected with the child’s activities becoming more complex and it’s communicative forms with the others as well. The alert study of that task brings us to the monolog speech and its tight connection with the thinking. The language potential of the children is developing exactly by its forms – Story and Story-telling (in accordance with the Methodology of language education in Bulgaria). The Story itself is the supreme language skill of the children in preschool age. To tell a story, the child has to choose itself the whole content and to present in appropriate language form. To achieve this task the child needs
enough language material and abilities of grammatically correct speech. Therefore with the use of the forms of the cohered speech, the child shows its mental potential and also its experience as a language personality including the variety of the language that it possesses because this is the ultimate age for enrichment of its vocabulary.

What is the actual status of the children’s speech development, according to the examine aspects it is hard to say without an appropriate research to be done. As I mentioned before the cohered speech is developing by Story and Story telling, that is why for achieving the goals of the research I classified for most appropriate the research method “Picture Story” (see pic. №1). The picture as a visual instrument stimulates the dominant visual-figurative way of thinking in preschool age. The problematic situation which the illustrated moment shows, suppose that the imagination has to create a story about what happened before and why is it that basket in the girl’s hand. Using this method with the same visual instrument for all children, a statement is provoked, which is different by its lexical fragments and grammatical structure.

On first place we have to determine the reference frame:

- Problem – the problem for the speech development of children from preschool age in the conditions of intensive changeable external environment;
- Aim – to receive accurate results, presenting the actual state of the lexical variety of the children in preschool age and analyzing the qualities of the children speech, expressed in a creative Story;
- Object – speech development of children in preschool period;
- Subject – lexical aspect of the speech development, conditions for enrichment of the vocabulary capacity

Research tasks
- creating a picture in advance for the mood in the testing group of children
- make a record of every individual story
- analysis of the results

Methods – observation, interview, story based on visual aids

The research was made in March, 2012, III group, Kindergarten No. 6, Dupnitsa, Kyustendil, Bulgaria

A “brain attack” was made with variety of questions, based on which the children had to create their own stories:

- Look at the picture!
- Who is that girl?
- Where is she now? Where is she going?
- Where is she coming from?
- What might happen to her?
- When? Who helped her?
- Who helped the girl to get home?
Tasks: All the children in the group to think about it and to make a short story – when and where this event happened, what is the girl’s name. In addition to think about an appropriate title of the story as well. The title has to be related to the story directly!

The following picture was present to the children:

![Picture 1]

The picture itself cannot provoke imagination – it is very difficult to be assimilated as a detached base for event, which didn’t happened in a tale. Initial reaction is closely connected with the fairy-tales, which the children had perceived since early age. Each child makes analogy with already known literary image and adds elements from its personal experience or from its actual interests. Even the assign of secondary questions doesn’t help, the situation is more like cross-examination and the children do not feel comfortable. It is difficult to transform such a dialog into a story. Although at the group lecture with all children, there were some points, on which the kids had to think about, in the moment of individual creation of a story, it seems like they just forgot it. Normally story telling in kindergarten is more like description of a picture, but in this case it was difficult for them to make even a list of the objects on the picture.

In the end of the lecture, there was an individual conversation with every child in the group. Each story was record and carefully analyzed after that.

There are 25 recorded and analyzed stories. To get a better idea about the lexical variety, it was necessary to make an analysis by using the given formula. I used the formula TTR (Type Token Ratio): 

\[ TTR = \frac{p}{q} \times 100 \]

where "q" is the number of all used words in child’s story and "p" is the number of the different words. The results was allocated in four categories – until 45%, 45% - 55%, 55% - 75% and over 75%, you can see the summary of the results in diagram 1:
The most frequent results are in section 45%-55% and 55%-75%, as in the second one (until 75%) actually there is biggest number of children. These are very surprising results, especially when we are talking about children until 7 years of age. Percentages from this rank are challengeable even for students. Detailed analysis gives a clear idea about the character of the lexical variety.

Well known and loved fairy-tales are in the base of the plot in most of the stories, where also can be seen lots of repetition of words, reproducing phrases and compilation of moments of two stories or even parts of fairy-tales. Additionally that is the way we can get an idea about children’s abilities for retelling, not for creating stories. The analysis shows the lexical variety of the author of the tale. That is why all the stories were separate into two groups – independent and compiled from other stories. In next diagram (diagram 2) you can see the results of this separation, based on comparative method.

The blue line presents the results of the children who used fairy-tales for a basis of their stories and the red line presents the independent stories of the children. You can see clearly that the first one is with abundant lexical variety. According to each story, we can define three subject lines, which are interweave in most of the stories, precisely: Fairy-tales, Personal Experience, Present and Future. Looking at the picture, the first analogy is with heroes from favorite tales. Fairy-tales have developing...
significance for children’s imagination and emotions. The kids gave preferences to the images of Cinderella, Red Riding Hood, Masha and the bear. It is not an obligation to make a connection with a tale if the child says the name of a main character. Different children used some scenes or acts but normally they choose these parts, where the good triumphs over the evil. Not every tale provokes a desire for reproducing it through a game, drawing or like in our case – a story. Normally the children want to reproduce those tales which are easy to understand for them and where there is a simple explanation about figures, their activities, steps and the relation between them. The proven fact, that from all tales, the children chose only that three, indicate that these are the most known tales from the children. In most of the stories there are even phrases from fairy-tales. This learning by heart has a psychological explanation. Regarding to the tales, the children are conservative. If they like some literary work, they want to hear it every time with the same words, in the same order, in the same way. They feel pleasure to recognize these words, to learn it by heart in their original order and to feel the same motions which they felt the first time they heard the story – surprise, fear, recompense. The children need security and order, the world does not have to leave suddenly and in a rude way the rails, on which the child had stabilized it.

Personal experience is other main part of children stories. The aspects of labour and ecological education can be seen in the qualities, which the kids gave to the girl from the picture. Depending on the individual existence, each story has something personal, something which represents the personality of the child – birthday party, story about dinosaurs, grandma who is knitting pants and a vest, also a grandma who is making a biscuit cake.

Present and Future. This line is directly connected with the previous one that is why there is some resemblance with it. It is remarkable that in each story there is the word flower (used in different forms). March is that special time of the year, when in the kindergartens have special preparation for the Spring Celebration. Daily repeating on thematically rimes, songs and dances gives a reflection on the children way of thinking and vocabulary.

Asking questions normally has to help for the creation of a story, but this case the children answer with just one or two words, directly connected with the picture or revealing elementary cause and effect connections.

Subject of the research is the lexical aspect of the speech development and that is why I emphasized on the independent stories. In the course of the analysis it a table was made, which unites all the used words and forms by every child. It gives a visual picture for variety of the speech. Thoroughly the children are using nouns and verbs, after them (according “use” criterion) are different prepositions, conjunctions and particles. There is serious use of a different form of the words. There is one more typical occurrence, using diminutives - girlie, housie. There is one more psychological event – the use of superlatives (most powerful, the biggest). The meaning for the child is totally different than the meaning for the adult. If a child use a superlative, it’s because it want to say that the person, animal or thing is unique, great and majestic. It’s not just a parallel like the adults do. That’s how the children demonstrate their admiration to someone’s superiority.

Presented picture suppose equal start for creative work to all children, depending on their personal potential. In next diagram (diagram 3) are presented the results of counting of all words in every simple story.
It is easy to see the clearly expressed peak, but the quantity is not proportional to the lexical variety.

In the next diagram (diagram 4) are synthesized the results of counting the all different words in every individual story. The expressed peak from previous diagram can be seen here also, but when compare it we can see that the lexical variety is not very big. That can be seen well in diagram 5, where diagrams 3 and 4 are compared. As you can see from the above, the number of different words deserved to the experience of the children, assimilated fairy-tales and the external environment where the children grown up and developed. Maybe in some future research, I can go deeper with questions so to establish different facts from the life and adjustments of the children, especially because in the period until 7 years, the connection with the family is very strong (that also can be seen in situations where the children set up the girl from the picture).

The dissimilarity is obvious. Furthermore, looking at the diagram, you can see the exceptional moment where Maria is the only one with 100% result! That means that every single word that she used was different. Additionally this is hardly achievable even for an adult with rich personal experience. A precise look on her short story reveals the mystery – she does not create a story, she is just answering the given questions, and likewise – her answers contain only one or two words. Most of the children feel embarrassed with free telling and with the “separation” from familiar plots already well-known from the fairy-tales.

It is difficult job to define the origin of the arisen difficulties. The fact that the picture could not provoke the imagination for free flight, pose some questions about selection of visual didactical materials in the time of language learning. What is more at one of my discussion with the teacher of the group, she frankly mentioned that the children have problems with story telling. Therefore this is a good reason for more volumetric and deeper research about characteristics of the children speech –
what is the reason for the poor lexical variety – that is also one of the questions which I am going to research in my dissertation.

Therefore to make easy to see the difference between the used words – total sum and sum of different words, the previous 2 diagrams are compared here, in diagram 5.
One of the main reasons for the observe phenomenon is the introduction of a compulsory education system for children at age of 5, where the educative content is focused on the preparation for learning to read and write. Thus this preparation is predominantly happening with children writing in notebooks allocated on tables. This eases the teacher’s job and they preferred this approach of working but in that case they allocate educational content from the school system to lower age group which has not even going to school yet. As a result the following problem occurs- work on the verbal speech is decreased to a minimum. In addition are affected the cohered speech and the lexical resource, grammar and the speech in the daily communications. This conclusion imposes further research into the problem and gives a new meaning to the goals of the speech development in pre-school period. Actually this fact is directly connected with the application of the communication-operative approach in the studies of native language and ignorance of the wrong practice of teaching how to read and write which has to be the school institution priority.

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A PIONNER IN THE CRITICAL PEDAGOGICAL APPROACH:
İSMAIL HAKKI TONGUÇ (1893-1960)
Firdevs Gümüşoğlu
Mimar Sinan Fine Art University, Faculty of Science and Letter,
Department of Sociology, Bomonti, İstanbul
E-mail: firdevs.gumusoglu@gmail.com

Abstract
In this research I am going to discuss İsmail Hakki Tonguç’s approach to education in villages in Turkey from 1936 to 1946. Tonguç was born in Bulgaria, Silistre in 1893. He was one of the earliest founders of The Village Institute in Turkey. At the time Turkey had 40 thousand villages without schools and already 96 percent of the people were illiterate. According to Tonguç, villager children would become the future generation of leaders who would go on to modernise. His approach was “learning through work”. The teacher should be raised in the same environment as the students. Very soon, this new types of school was founded all around the country. The students who were chosen in the villages. Education has meet the villagers’ needs. At the same time they had courses in math, science, arts ext. Tonguç wanted to break the silence of oppression. The utopia became reality in 15 years: 20 thousand villagers became teachers and 1.600 paramedics. In this presentation I am going to talk about the effects of Tonguç’s educational approach in Turkey.

Key words: Village Institute, Critical Pedagogy, Education Modernisation

1. INTRODUCTION
Education became an important part of the modernization process of the Ottoman Empire beginning with the 19th century. Mahmut the II made young boys primary schools (sibyan mektebi) mandatory (Başgöz 1999, 23; Koçer 1992, 35). This was the first attempt at spreading education in the Ottoman Empire. Another first was allowing girls to enter these schools. In 1860, engineering schools and medical schools were established in addition to Technical Schools to provide for the needs of the military schools. The modernization in Education was seen as a way to revive the weakening economic and military power of the Empire. However, these attempts were limited and no great reform in Education was achieved. These educational privileges remained available to a small minority. Poor children, who formed the majority, were left with no choice other than the primary schools and the Madrasah. The education in the Madrasah’s were according to the Sheria Laws and were resistant to any kind of change until 1908 (Başgöz 1999, 35).

During the first half of the 19th century these efforts aimed at changing society through education. These changes could not be considered as thoroughly radical unless revised by the system. The idea of the modernization of education remained limited to the thoughts of the emperor, the viziers and the ministers (Başgöz 1999). With the declaration of the II. Constitutional Monarchy in 1908, it was announced that elementary education would be free and there would be an elementary school in every neighbourhood. With the application of these procedures the number of students quadrupled in some
cities. The educators were worried that there weren’t enough schools that would have to trained teachers. In 1914, İbrahim Mahir Efendi, proposed that they would have to wait for 300 years to train enough educators that would support the new education law, in his speech he gave in the parliament (Başgöz 1999, 42) At the same time, educating the youth to deliver a more productive generation was a problem many educators stressed upon (Tonguç 1938, Koçer 1992)

In 1919, the Ottomon Empire started to decline following the invasion of Istanbul and Anatolia by Western countries. This also made the long lasting educational system to fall apart. Soon after local resistance groups, fighting for independence were formed all around Anatolia (Tanör 1992). While the war of Independence continued a new government was formed in Ankara on the 23rd of April 1920. The new parliament regarded education a priority and formed the Ministry of Education in 1920. A Teacher’s Congress was held in Ankara on July 15, 1921 with the aim of coming up with immediate solutions to the educational problems. The congress was unable to put forward any immediate solutions. Even decades after the economic and social conditions of the country remained undeveloped. Access to free education became a constitutional right. Coeducation at all levels began to be implemented. This was a significant steps towards positive discrimination for women. However in 1927 98% of the 40.000 villages in Turkey still had no school. The literacy rate was very low and in 1928 only 6% of the population was literate. This meant that 94% of the population had no access to any kind of education. The majority of the population earned their living by agriculture and animal husbandry, under primitive conditions. For the last 10.000 years the plough had remained the major agricultural technology (Krây 1999, 117) making living conditions quite hard. Villages suffered from hunger and poverty. Industrial production was almost non-existent. All industrial products were imported. Finding nails and pipes for constructing buildings that had been burned down by the enemy and had not been repaired was difficult. There were not enough roads between villages and cities. Transportation was by donkeys, horses and humans. Horses and carriages were used in the more developed regions (Güvenç 1997, 13). Another important problem in the villages was the fact that people were abused and exploited by feudal powers. The villagers had a very dependent relationship with feudality (Tökin 1934, 177) In addition epidemics were an important public health issue.

To summarize, the authorities at the time were in search of solutions to the problems mentioned above. Education was defined as a priority. In 1928, the Latin alphabet replaced the Arabic alphabet, which was very hard to learn. Immediately after, public schools were opened all around the country. People were taught social studies in addition to learning to read and write. Both men and women, ranging from age 7 to age 70 showed great interest in these public schools. At the same time the quantity and quality of primary schools were improved. Firstly, the quantity and quality of the Rural Teacher’s Schools were improved. However in 1935 the education problem had still not been satisfactorily solved. After much debate, it was decided in 1936 to educate the young villagers who had served as sergeants in the army. The aim in doing so was to enable these young men to become teachers in their own villages. These young teachers were going to teach in their natural habitat. It was decided that in the event of these teachers becoming a success, women would also be trained as teachers. One of the founders of the idea was İsmail Hakkı Tonguç. Thereafter Tonguç’s “Reviving the Rural” project was put to life. The aim of Tonguç’s project was to implement an educational model that would be used to build a rational and productive rural society.

Tonguç considered “the old school” with its methods of route learning to be far from understanding the needs of society. The “old school” was compromised of teachers who knew and subject who were taught. Tonguç considered schools to be an important part of rural life. Teachers and students alike produced, consumed, learned and had fun together. He believed that schools should become more than just institutions that educated intellectuals and handed out diplomas, by becoming “schools of life and
work”. Therefore, he aimed to revive the villages through children who were familiar with rural life and understanding. 17,000 teachers graduated from schools based on Tonguç’s principles until 1954. Many of these people went on to become scientists, artist, writers and politicians who left their marks on the intellectual world of Turkey.

2. EDUCATION AS A PRACTICE TO FREEDOM: THE “PRAXIS” CONCEPT OF TONGUÇ

The pedagogical approach of İsmail Hakkı Tonguç is similar to the praxis concept of Paolo Freire put forth in his 1969 publication of “The Pedagogy of the Oppressed”. An important figure of critical pedagogy, Friere’s pedagogical thought is reflective of his understanding of social realism. Friere observed poverty in Latin America. In 1969 Friere wrote the following “Human life is compromised of action and thought. This is called praxis, the reforming of the world. And praxis needs a concept that will illuminate itself. Human life is concept and praxis, thought and action… Human life can not be reduced to theory or activism.” (Friere 1991, 96) In 1938 İsmail Hakkı Tonguç, about 30 years before Friere, put forth a similar critical perspective.

Tonguç’s life was dedicated to the modernization of the medieval and poor villages in Turkey. His thoughts were not based solely on what he had read in books. He, himself was the son of a rural family living in Silistre in the beginning of the 1900s. He came to Istanbul during the Balkan war to study and become a teacher. Tonguç was familiar with both life in the poor villages of Bulgaria, which was under the reign of the Ottoman Empire and life in Anatolia. On the other hand he was also familiar with the educational and societal problems in the western world. In 1918 he was sent to Germany for further training. During this visit he became familiar with Georg M. Kerschensteir and John Dewey’s “school of knowledge” vs “school of work” argument. Tonguç realized that the debate was very close to his own ideas. While in Germany Tonguç witnessed the leftist uprising in Berlin and Munich. However, his stay in Germany had to be cut short. During his first year as a student Tonguç received the news that his country had been invaded. He returned to Istanbul on May 19, 1919 with other students in Germany. He was assigned to Eskişehir as an Arts and Crafts teacher. One day during one of his classes an English Officer entered the classroom and said something to Tonguç, which Tonguç did not understand. The officer whipped Tonguç, upon which his students wanted to retaliate with equal force. Tonguç quietened the class and said “Sit down. Observe the state we are in. Unless we can install the characteristics needed to make us a strong nation we deserve to be whipped” (Tonguç 1970, 79)

Tonguç’s life, which we have briefly described above, reflects elements of the political and social context of the time. As a teacher who had witnessed poverty during the Balkan Wars, the First World War, and the invasion of Anatolia, he clearly understood the importance of Turkey’s modernization and empowerment. Consequently, he was constantly looking for possible solutions. Tonguç an educator, who knew the living conditions of Turkey very well, become a researcher during the 1930s. His conceptualization of education can be explained by the unity of thought and action; that is praxis.

3. TONGUÇ’S CONCEPTUALIZATION OF EDUCATION:

“Education in the Villages” and “Revival of the Village” were published in 1938 and 1939 respectively. Tonguç constructed extensive research before writing the books. He researched 61 cities, 305 provinces and 9159 villages (Tonguç 1938, 682). He travelled from the East of the country to the West, from the North to the South, to better understand the social structure and formulate solutions
towards the educational problem. He consulted with other teachers. He believed it was absolutely necessary to become familiar with village life and the villagers. A correct diagnosis was necessary before treatment was possible. According to Tonguç the most important problems of the Turkish rural community stemmed from the fact that they had been exploited for centuries, and were surrounded by a social structure that was based on poverty, ignorance and superstition. The most prominent exit from this situation could be achieved by educating the rural children. This required familiarization with the needs of rural communities. Tonguç said “It is not possible to foresee the future of education in rural communities unless one knows the present situation” (Tonguç 1938, s. VIII). According to Tonguç, a child growing up in the villages was much more than what had been written about him/her in books. “Unless we get to know them from within, it can not be possible to redirect them to where we want them to be. Some people say that the principles that apply to other children can be applied to children in the villages. Those who have taken part in rural research think differently” (Altunya 2009, 59)

According to Tonguç it is not possible to understand rural reality from a distance. “Unless we can shed our blood into the reality of rural life, unless we can live and die in these 40,000 villages we can not understand the secrets of rural communities. To be able to understand and hear the villagers we need to feel their breath against our skin. It is necessary to drink the water they drinks, eat the wheat rice they eat, do the chores they do and burn the dung they burn” (Tonguç 1938, 43). According to Tonguç during the reign of the Ottoman Empire, the ruling class and the intellectuals had become alienated from the poor villagers. Tonguç developed a stand against this societal reality and said “First of all let us try to get to know the truth about villages. Lets try to find out everything there is to learn, bravely, truth fully and without falling prey to the games of demagogues ” (Tonguç 1938, 46)

His understanding of education called for heroes in every area of life. These heroes had to come from the villages themselves (Tonguç 1938, 44). Tonguç talked of a “village issue”, however this issue was not one of development but one of understanding revival. The rural community should be educated so that no force can exploit them ruthlessly, treat the villagers as slaves or as animals that work for free. The “village issue” is basically as described above including the educational problem (Tonguç 1938, 94)

According to Tonguç, positive sciences are what created the Western Civilization. “Civilization created a new human typology who tried to conquer nature by ration” (Tonguç 1938, 544). The same principle was applicable to Turkey. For our country to grow, a new rational model of humanity needed to be developed. A new model of humanity would create a new understanding of schools and schooling. “Reviving villages must begin with creating a new type of person who will join forces with us in this war. Reviving villages requires more than traditional primary schooling. If that were enough, schools opened by Hafiz Osman, Sari Hodga, Molla Hasan and Kerim Efendi would have solved the problem many times by now…” Schools that purely provided information were not enough. According to him schools that purely provide information are based upon route learning and are useless. (Tonguç 1938, 547)

The framework of Tonguç’s educational approach was as follows: A methodological approach to the revival of villages, which formed the majority of the population yet were faced with epidemics, lack of electricity and roads, poverty and limited resources. This required a system different from the classical approach to education. What was it that was required? First of all to know the village and villagers. Recognizing their weaknesses and strengths. Secondly, using an insider, someone from the village as an agent of change instead of an outsider from the city. Thirdly this person should have empathy and should feel a connection between his own fate and that of the village. Fourthly, the agent of change should be the one people turn to for solving problems and should lead an exemplary life. Fifthly, he
should show the villagers that their medieval beliefs are wrong and should lead them to a more scientific approach. Sixthly and lastly as the teacher of the village, he should set an example about how to be a good citizen.

Paolo Friere says that a “banking model of education” is what alienates humans from themselves (Friere 1991). This educational model forces people to desert a questioning mind. The “Banking model of education” destroys creative thinking. The “problem defining model of education” on the other hand, decodes reality. Friere considers education as a practice to freedom. “The banking model of education advocates the submersion of the conscious, whereas the problem defining model of education encourages the conscious to actively criticize reality” (Friere 1991, 53). In 1939 Tonguç expressed a thought parallel to Friere’s ideas by saying “Those who educate the young generation by handing them a diploma and encouraging them to become parasites of the state, need to consider the negative effects of these institutional formations that create semi intellectuals” (Tonguç 1939, 31). What Tonguç means by “institutions of formation” are schools that destroy creativity, teach submissiveness and discourage a sceptical mind. This model of education derives its ideology from tradition (Tonguç 1939, 543). “A school in which the teachers do all the talking and the students all the listening, a school in which the teachers give out orders and the students obey the orders, and a school in which the students are not encouraged to be autonomous is an old school” (Friere 1991, 47).


As we mentioned in earlier chapters, before starting the practice of Village Educators Courses, he observed 9156 villages. During this time he was the primary schools head of council. He requested detailed reports on the situations of villages that he was unable to visit. These reports clearly showed the educational problems of the nation as well as pointing out to the well-rounded teachers in villages. (Later we see that some of these teachers worked at the Village Educators Courses and Village Institutes. Gümüşoğlu 2011, 77) With the help of Saffet Arıkan, the Ministry of Education, Tonguç’s reports about the situation in the rural areas was accepted in the parliament, on 11.06.1937. This was the first step towards the opening of Village Educators Courses.

The first item of the Village Village Educators Courses Law states as follows: “Special teachers will be recruited to serve the smaller villages, which don’t have a population large enough to require regular teachers” (Tonguç 1938, 2000). With the recruitment of these instructors, primary schools with three classes were opened in rural areas that did not have regular schools. Children without the chance of a proper education could at least go to school for three years. It was recorded that many students took advantage of these three-year schools and continued their education in neighbouring areas (Gümüşoğlu 2011, 123).

The Village Village Educators Courses were an initial step towards the Village Institutes, which would be opened in 1940. The village teachers were educated according to the principle of on the job training. The courses lasted for six to eight months. On completion the teachers did a four-month internship. “During the pilot study in 1936 the students learned about the use and repair of agricultural tools, the artificial reproduction of horses and cows, seed collecting and harvesting the crops… These were all examples of on the job training. Group learning was used instead of in the class learning. Emphasis was placed upon observation, experimentation, and application ” (Uyar 2000, 106)

These courses served the purpose of meeting the urgent need for new teachers in the country. Teachers who were to serve in the villages were given basic training about the potential problems they might
encounter. Other goals of these courses included increasing production in villages and overcoming health issues. The student teachers were thought reading, writing, arithmetic’s and social sciences. A connection between the fate of the village and the fate of the state and country was emphasized. The teachers were required to help organize the construction of the school, observe and note the agricultural needs of the village and contribute to the plantation of new trees. “Point to possible locations for orchards”… “Observes the amount of rain during seasons”… “Sets an example by building high standard hives and hen houses” (Anonymous 1937, 8-10)

Students who were chosen to be trained as teachers would be selected from among young people with the following qualities: High intelligence, entrepreneurism, strong willpower, open worldview and intuition, quick mind, strong physical health, common sense, bravery, good communication skills, sympathy, strategic thinking, planning and leadership (Ertem 1939, 69). In addition a rural teacher would need to be “as calm and cautious as a diplomat” and “be able to handle conflict” (Ertem 1937, 258). These teachers would also be required to have basic first aid training, be familiar with basic agricultural techniques and be able to teach these to the villagers as well as help them become more environmentally conscious. At the same time these teachers would need to battle tradition and superstition. “Society is the foundation of the state. If the foundation is weak, the building will be weak too” (Ertem 1937, 261). One way of strengthening the state-society foundation was through educating the villagers and enabling the village children to become equal citizens. “Patriotism begins with becoming deeply interested in one’s closest environment. Therefore, village children need to become familiar with their own habitat and be trained as individuals who will always strive towards the harmony and well being of their home villages” (Anonymous 1939, 1).

According to Tonguç’s conceptualization of education, by being forced to live under inhuman conditions, the villagers had been deprived of their right to free speech. Revival of the villages had to begin with the children. These children would become citizens of the future. Therefore, they should be addressed as “little citizens”. “Village children are the little citizens of the Turkish Republic. The administrators and teachers need to always remember this and raise them to be adults with the strength to fulfil their duties” (Anonymous 1939, 2). The teachers were encouraged to allow the students as much free speech as possible and to teach them to speak well. “It is not fair to always call on the best students and ask them to step up to the blackboard. One should call on the good and poor students, equally so they can get used to speaking up and to learning... If there is a calendar in the classroom take turns in asking the students to rip a page each day.” (Third grade manual for Village Teacher, 1941, 3-5)

The approach mentioned above was about to become more than a theoretical model. As Tonguç frequently mentioned, theory that was not practiced should be avoided. Children should be educated about their legal rights as well as their duties. Children were taught about their rights during the Village Primary School Programme. They also had applied classes in which they learned to organize and write formal petitions. The literacy rate was so low that, even writing letters to relatives who lived outside the village was a serious problem. The teachers helped overcome this problem too. As a result the success of the Village Educators Courses led to the formation of institutions that would be known as The Village Institutes.

5. THE VILLAGE INSTITUTES

The Village Institutes legislation was passed on April 17, 1940. 20 institutes were opened around the country in accordance with economic, geographical and societal need until 1946. Each institute was
named after its geographical location. Education in the Institutes was organized around Tonguç’s principles. The Çilavuz Village Institute, in the Northeastern Anatolia Region specialized in husbandry and agriculture. The Black Sea Region Institute in Trabzon specialized in fishing. The Eagan Region Institutes specialized in growing olive trees and storing and marketing olives. Each Institute served as a centre of development for its region. Another outstanding approach was the focus on training students to become productive. Each student had to learn a craft in addition to the academic curriculum. These included carpentry, metal smith, textile, poultry raising etc. At the same time students were taught mathematics, physics, chemistry, literature, sociology, pedagogy and foreign languages. Unlike classical schools, students learned on the job. For example students grew their own crop, drank the milk from the cows they raised and ate the honey from the hives they cared for. They learned how to build an electrical power plant during physics class and produced electricity for villages that lacked power. Students took turns being in charge of dorms, kitchens, stables and equipment. They were responsible for making sure the dorms remained clean and tidy. The kitchen head was responsible for hygiene and the equal distribution of meals. The teachers on call and the president of students supported the process.

The student in charge of the equipment would loan the equipment to other students and then have them return it to him at the end of the day. The Student President was represent the student body and would attend the teacher’s meetings, freely expressing the thoughts and needs of the study body. The student president were chosen by election. The administrators and the student council would have joint meetings that would be open to the whole school. The joint decisions would then be implemented by the institute. (Kucur 1997, 77-81) The applied part of the curriculum took part outside the classroom. In addition, each student was required to learn to play at least one musical instrument such as the violin, piano or mandolin. Required reading included at least 20 books from the Turkish and western classics.

It was hoped that by bringing the teacher closer to the student and the administrator closer to the employee, the alienation that was typical to classical schools could be avoided. “Weekend meetings of constructive criticism” would be held every Saturday.

Students, teachers and graduates would be able to attend these meetings. The week would be reviewed and stories of success would be highlighted. (Özsoy 1997, 64) Students would feel free to criticize the administrators and teachers during these meetings. The meetings would end with fun activities and student performances.

Tonguç forbade all violence in these schools and strongly advised teachers against the use of corporal punishment. “... Teachers at the Institutes should never give up when met by obstacles. They should be able to deal with all kinds of harsh social and natural events always remaining calm and composed. Slapping and beating of any kind are primitive acts that need to be avoided. The new generation of teachers never allow this to happen. They should always abide by the law. They should train their students to be courageous and to participate in activities such as driving, animal care, riding, night watch, repairing, giving conferences, attending competitions from a young age. Students should be kind and compassionate, willing to share their last slice of bread if necessary. A graduate of the institute should help those in need. A teacher who lacks empathy towards the old, the ill, the poor, the depressed can never fulfil his duty.”

Students at the institutes should take good care of their personal hygiene. Being civilized requires doing so. Students are inspected four times a year to check that they are in accordance with the principles mentioned above. “Some children are prone to giving up when faced with obstacles. This leads to despair and loss of confidence. Teachers at the Institute should carefully watch such children,
observing and supporting them closely. Each completed task is a masterpiece. Students at the Institutes should be encouraged to be creative starting from an early age. An unproductive person is a week, incompetent, cowardly, and lazy individual... A person who is unable to create and produce is destined to be dependent (Tonguç 1997, 71-74).

6. CONCLUSION

A new educational model was implemented in Turkey beginning with the second half of 1930’s while Europe was still at war. The educational problem what had not been able to be solved since the Ottoman Empire was given priority by the young Republic.

The teachers available were far from meeting the needs of the country. They were strangers to the villages and village life. By 1936 there was a shortage of thousands of teachers. Tonguç, who was assigned as the Primary Schools General Director, closely observed and analyzed the needs and requirement of rural education. He realized the need for a tailor made approach to education in the rural community. Pilot training courses for teachers to serve in rural areas were founded. These courses which turned out to be a great success are described in detail in Tonguç’s book “The Revival of Villages”. The Village Institutes were planned as institutions that would provide free education to both girls and boys. Education would take place not only in buildings but in every area of village life. This was an unusual approach. Girls and boys would be trained to become the modern faces of their villages. Tonguç’s model argued for the right to free speech, as well as creative thinking. He described “old schools” and route learning as being institutions that were far from real life. Such schools easily became places that are “dangerous and hated” (Tonguç 1978, 183). These “old schools” described by Tonguç are very similar to what Friere described as the “banking educational model” of the 1960’s.

The Village Institutes were envisioned as an educational model that would improve and change the primitive living conditions ad feudal relationships that had existed for thousands of the years in villages in which the majority of the population lived. The aim was to end feudality and replace it with “citizenship”. It was believed that social and economical changes would follow. The Village Institutes and Village Educators Courses transformed Tonguç’s utopia into reality. The graduates became instruments of enlightenment and helped educate millions of young people. Many graduates went on to become prominent names in the fields of literature, art, science and politics and active members of civil organizations.

These changes began to be met with resistance around 1946. The land owners and leading powers were not happy with the new situation. With the advent of multiple political parties, the instruments of power in rural communities began to express discomfort about the schools and their applications.

In addition they began to complain that they could not find “servants and herdsmen” any longer. This was the beginning of the end of the Village Institutes. The rural children’s right to qualified education was taken away. The content of the educational programs was revised. The new generations to follow would be strangers to the needs of the country. They would be unproductive and submissive. The leading powers closed down the Village Institutes in 1954, which were later brought to the world’s attention as exemplary models of education by the UNESCO in 1970.

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INNOVATIVE LEARNING! THE CLICHÉ OF PRESENT EDUCATION
OR THE CHALLENGE OF KNOWLEDGE BASED SOCIETY?
A QUALITATIVE STUDY ON TEACHERS' PERCEPTION REGARDING THE ROLE
AND IMPACT OF TECHNOLOGICAL INNOVATION IN THE ROMANIAN
EDUCATIONAL ENVIRONMENT

Raluca Cristina, A. Eftimie
Doctoral Studies Institute, Bucharest Academy of Economic Studies
11, Take Ionescu Str., Bucharest, Romania

Abstract

Innovation is the main catalyst of economic and social progress. It is the main requisite in the development of a competitive educational environment in the context of a society based on knowledge. The increased role education plays in present society brings the need to consider the large scale educational innovation as a strategic objective for coherent and stable development.

Regarded as the main source of economic and social progress, innovation is essential for the development of the educational environment in the context of knowledge based society. The constant growth that education has on present society shapes the necessity to consider educational innovation on a large scale as a strategic objective of coherent and lasting evolution.

Many studies in the field have highlighted the role innovation and especially technological innovation has in the educational system and the factors that influence its efficiency. Even so, there are few papers that consider the teachers’ perception of innovation, the flexibility and their ability to adapt to change, as an extremely important influential factor in adopting the decision to implement actual educational innovation.

Through the interpretation of the qualitative research results carried out in the Romanian educational environment, the present paper suggests an analysis model of the use of e-learning technologies, starting from the teachers' opinion on integrating technological innovation in class and considering their decision power in the method and degree of adopting innovation. The behavioral approach suggested in the present study objectively and dynamically implies the real situations of rejecting present innovation on a large scale in the Romanian educational environment and more.

Key words: innovation, e-learning, perception, behavior, education

1. INTRODUCTION

Innovation was the main evolution catalyst in the entire history of mankind. Regardless of the economical and social development stage or the innovation domain, the role that innovation had was fundamental. It has been an element of human creativity, a result of research activities and a catalyst for economic growth.
De-a lungul timpului principalul motor al evoluției sociale a fost considerate inovația. Indiferent de stadiul dezvoltării economice și sociale sau de domeniul supus procesului de inovare, rolul inovației în societate a fost primordial. Element al creativității și ingeniozității umane, rezultat al activităților de cercetare a mediului și motor al creșterii economice, inovația s-a regăsit încă din cele mai vechi timpuri în cadrul celor mai înalte preocupații umane.

The term "innovation" appeared in the 19th century. It was defined as an element of a culture that entered and modified another culture. The term is still used in cultural-ethnographic studies.

Even so, the first studies regarding innovation and its role in society were carried out in the beginning of the 20th century. The first attempts to define the concept of innovation belong to J.B. Taylor who defines innovation as something that answers certain social needs by means of new ways of doing things. (Taylor, 1970, p. 72).

Gradually, concepts like innovation and innovator appeared in the cultural and business environments in the ’50s and ’40s, as well as specific concepts like "innovational policy" and “innovational process”.

In a knowledge based society, education represents the main field that influences general evolution, which means there is a bigger need to bring innovation in the educational environment. Since it is a positive development catalyst for the human society, the efficiency of innovation in the educational environment is an essential strategic objective.

To understand the positive effects of innovation it is necessary to know and correlate the perception and reactions of the most important parts in the educational environment: teachers and students, but also their decisional level. The users of educational technologies, the teachers, decide directly on integrating the innovations in the teaching-learning processes. This is why their perception on educational innovation should be a starting point in the implementing processes.

Obtaining a positive change in the educational system, based on the increase of the quality of the educational activity, depends on the success of the innovation implementation strategies and on the agents’ ability to adapt to it and on the efficiency of the environment it is used in.

2. LITERATURE REVIEW

Recent definitions of innovation explain it differently - a new element in the process of implementing innovation (Taran, 1995). E. Mansfield defined it as: "Innovation is the global process of technological creativity, the transfer of an idea or a new concept, up until the final stage of a new product, activity or service accepted by the market." (Mansfield, 1986).

Innovation is presented as a technical achievement, a new element that presents economical and social advantages, animating the economic progress and more. (Cojocaru, 2007). The concept of innovation appears also in socio-public fields, like education, health, administration, etc.

The role of innovation and its link to economical and social progress is very important for international bodies and organizations. According to the OECD, innovation represents a combination between science and technology, in which knowledge has a key role. Thus, innovation is considered to be the central element of the knowledge based economy. Developed innovative systems highlight the role of the interaction between different institutions to identify the elements of interactivity in the processes of creation, selection and using knowledge. In the first edition of the Frascati Manual in 1997, the Oslo OECD manual adds new elements in the definition of innovation. The paper
distinguishes product innovation from process innovation, both of them being based on technology and technological knowledge. Thus, a technological product innovation represents the “implementation / marketing of a product with improved performance to offer customers new and better services.” Technological innovation is a process that involves “implementing / adopting new or improved methods for production or marketing.” (O.E.C.D., 2006).

In order to have economic impact, technological innovation must be selected. According to the OECD, technological innovation can be selected through market channels or otherwise, starting from the first region for implementation to all regions and all of the company / institution's activity sectors.

According to Perner, L. there are factors that can influence the speed of distributing innovation: the advantage offered by the innovative product, its price and offered facilities, but also the difficulties implied by the process of changing the old product with the innovative product. In a community, there are social and cultural factors. The modern aspect, perceived as the openness the community shows towards innovation, is probably the most important influential factor of adopting innovation. The similarity between the product or the innovative service and the community particularities is a catalyst in the stage of implementing innovation. Perner gave special attention to the geographical distance between communities, thus, defining an inhibiting factor in the process of distributing innovation. At a community level, opinion leaders and groups can also have an influence – either positive or it can become local resistance (Perner, www.consumerpsychology.com).

Educational innovation represents also a large field for many educators and sociologists (Dewey, Rousseau or Durkheim) and researchers from important European and international forums. CERI, created within the OECD, represents the main international body with the objective to develop and promote innovation in the educational system.

Educational innovation is part of social innovation, along with fields like: health, administration, culture, sport, etc. According to the Research Institute for Quality of Life, social innovation suggests an innovative solution to a real social problem, thus, changing the evolution or progress of the entire society (Matei, 2009).

The particularity of educational innovation follows the guidelines of the general characteristics of services innovation. Process innovation is defined by the sum of new methods, procedures and components or significantly improved, used for supplying services.

Because of the simultaneous characteristic of services production and consumption, product innovation is equal to process innovation.

Pim den Hertog identifies four dimensions of the services innovation model (den Hertog, P. 2001), making a reference to the need of services innovation, in the communication and distribution of services, but also the need to apply innovative technologies. The dimensions identified by Pim den Hertog are applicable in the educational field and they represent the main innovation directions stated in general educational development strategies.

In the literature, educational innovation is considered to be an innovation for teaching, since its objective is to substantially increase students' level of training by presenting new teaching methods and instruments, based on developing interaction and interactivity during class (Bechard, 2001).

According to G. Neagu, educational innovation suggests an improvement in results (student results, educational level and class attendance). The changes can be positive and lasting, for a large group of individuals.
The success of implementing innovation in the educational system can be influenced through a series of favorable or inhibiting factors, depending on the context and the institution's ability to react (Bechard, 2001).

Technological innovation is the main catalyst for the educational environment. It is interpreted as “the assembly of methods, means and ways of organizing learning, from which the teacher selects the elements needed for projecting, developing and evaluating an activity or a system of educational and extra educational activities, depending on the educational objectives, the nature of the content and the conditions of learning” (Cojocaru, 2010). Educational technology is considered to be the main solution to the need of stimulating the educational system by increasing the level of interactivity and collaboration during class.

3. METHODOLOGY

This article suggests a new approach on the method of implementing technological innovation in the educational environment, starting with the teacher’s general perception of the role and usefulness of the technology. It also tries to explain the low rate of accepting technology within the teaching-learning processes.

Qualitative research investigates the real situation of implementing the e-learning platforms within class by observing the teachers’ general perception of innovation.

The study was made on a sample of 20 Romanian high school teachers, aged 15 – 35 years, from the rural and urban environment. They are teachers of disciplines like geography, history, Romanian language and biology. They were selected from the group that, in a test, scored at least a medium level of knowledge and use of IT technologies.

Through detailed interviewing, the study group’s perception of innovation in the educational environment, but also towards accepting and using e-learning platforms during class was identified.

4. RESULTS AND DISCUSSION

Qualitative research started from the hypothesis of a reaction generalized by rejecting innovation in the educational environment, which constantly has consequences on any type of innovation, including technological innovation. The study was carried out in a complex context, generated by the introduction of e-learning platforms in the Romanian educational system.

During detailed interviewing, innovation was perceived generally adapted to the educational environment, by associating it with the technological component.

“In my opinion, innovation represents introducing new elements to ease both the teacher’s work as well as the student’s”, said one of the teachers in the study group. Many of the definitions given for “innovation” correlate its characteristic with its objectives, thus producing positive changes in the implementation environment. “I think, innovation is a method, a technology or a system with the purpose of improving the teaching-learning process and improve student results”, said another teacher. “I think innovation is anything that can generate essential positive changes in the Romanian educational system”, said one of the participants, supported by most.

“Using IT equipment in class, which would allow viewing different materials (digital material, audio-video material, etc.) would definitely be an innovation”, said one of the study subjects, connecting the
Term of innovation to the need for technological evolution in the educational environment. The term innovation was also associated with technological innovations recently introduced in the Romanian educational system: “using AEL platforms is an innovation, in my opinion. This has modified the teaching method characteristics and I consider them useful for class.”

Frequently subjected to changes, the educational field has always shown the need for high flexibility and a prompt and positive reaction when confronted with periodically implemented innovations. The present reality of the Romanian educational system questions the ability to adapt in real time to changes. This study investigated the teachers' ability to react to change. During the detailed interviews they responded with a low level of adaptation to the recent changes in the educational system. “The Romanian educational system is always changing. They changed the curriculum, the structure, the textbooks and even the type of class activities. We are forced to adapt. Our success in doing it depends individually but also on the type of the imposed changes”, said one of the teachers in the study group. “I don’t think the recent changes in the educational system bring anything good, so I try as much as possible to avoid them.” The students were much better prepared when there weren’t so many changes”, one of the teachers stated. The teachers’ conservatism is an important influential factor for the process of accepting or rejecting innovation. Although many of the participants see themselves as modern and flexible thinking when it comes to innovative processes, the answers registered in interviews reflect the a high level of conservatism. If the teachers manage to adapt to the educational system's specific changes, especially linked to the curriculum and activity structure, introducing new teaching methods that imply using complex technologies like e-learning will become a completely innovative element that will receive negative reactions from most of those interviewed. They will refuse to accept the benefits or will consider that they will need a lot of time to adapt.

Although all of them accept the positive implications of the “innovation” concept, the majority of those interviewed admit they do not accept innovations suggested to be implemented in the educational environment. When asked how they would react if, in the near future, they were asked to use and integrate a completely new e-learning system during class, the teachers said that they wouldn't apply it, because they would need a long time for analysis and training to use the systems. “I think I would accept the suggestion but I would use the system in class immediately. I would try to see if it fits what I teach and whether it is well designed and useful. If I conclude that it is useful and it makes my work easier, then I would probably use it”, a subject admitted. The issue of a professional training before the implementation of the innovation is mentioned by most of the study participants. They considered that, without prior training and testing, it is very difficult to adopt such a system. The answers received during the detailed interview explain the gap between the moment of introducing innovation in the educational environment and the moment of using and integrating it. “It is difficult to use a teaching tool that you do not know and have never used before presenting it to your students. That is why I would surely reject the suggestion for the moment, and I would try to test the system for some time, and then, if I am pleased with it, I would use it in class”, stated one of the teachers.

“Maybe before suggesting introducing such an e-learning system, it would be ideal for school to have the necessary infrastructure in order to use it efficiently. If this were to be fixed, I would try to use it”. The infrastructure problem is still one of the most important elements to consider when implementing innovations like e-learning. The perceived efficiency of the innovation will thus be influenced by external factors and by the way in which they perceived by teachers.

The teachers’ perception of innovation, of the difficulties in implementing it, and its efficiency in the educational processes, influences not only the degree of accepting it but also its integration period.
The teachers’ reaction to the innovation reflects their ability to adapt to the changes also by the necessary period to finalize this.

5. CONCLUSIONS

Through qualitative research, this article presents and analyses the teachers’ perception of educational innovation, reflecting their reaction when confronted with implementing an innovative technological solution: e-learning systems.

Teachers, permanently subject to the changes in the Romanian educational system, are forced to adapt fast, needing superior flexibility and openness to innovative elements. Even so, the real adapting and integrating ability is considered to be low – the subjects of the study declared that they usually need a longer period to learn and adapt to innovative solutions.

Generally perceived as a favorable element for positive changes in the educational environment, innovation is mostly associated with technological evolution. The benefic results of e-learning technological innovation, although appreciated by the subjects of the study, are not sufficient for the systems to be used and integrated in the teaching-learning processes. The teachers’ general reservation towards innovation, and also the perceived difficulty are the main variables that influence the level of e-learning platform acceptance. This creates significant gap between the moment they enter the educational system and actual moment of integrating them.

This research will be continued in a quantitative research on a representative sample of Romanian teachers. The purpose will be to check and test the results of the detailed interviews.

The results of the present study represent an essential premise for elaborating and establishing the implementation methods for the innovative technology integration strategies in the Romanian educational market. In an effective educational marketing, it is essential to know the behavior of the main users of this technology - the teachers - in order to stimulate school results on a large scale and to increase the quality of the educational services.

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THE CURRENT STATE OF ENGINEERING EDUCATION. VIEW FROM THE REGION.

Arkhangelskaya E.A.,
FSAEE North-Eastern Federal University named after M. K. Ammosov,
Yakutsk, Russia, e_arkhangelskaya@mail.ru

Abstract

The article discusses the basic problems of higher engineering education at the regional level. We discuss ways to address them.

Key words: engineering education, modernization of education

North-East of the Russian Federation (Republic of Sakha (Yakutia), Kamchatka, Sakhalin, Chukotka Autonomous District) belongs to the fastest growing regions of Russia. The strategic importance of this region for Russia, increases many times in connection with active economic, demographic and political processes taking place in the world, especially in the neighboring territories.

Under the Scheme of complex development and distribution of productive forces, Transport and Energy of the Republic of Sakha (Yakutia) up to 2020 a vector of economic development is aimed at diversifying its creation and development of processing industry, development of regional energy sector to the national scale in its importance to the Russian Far East and international on the entire North-East Asia.

One way is now recognized as a priority is to strengthen the integration of higher education institutions in the livelihoods of the region in which they are located. In other words, training should be advanced in order to implement the directions of modernization and technological development of the real economy of the region. In this connection, in particular the role and importance of engineering education increases as the engine of the national system of innovation economy in Russia.

The lead institution which prepares specialists for the north-eastern region of Russia, is the North-Eastern Federal University after MK Ammosov (NEFU), with an enrollment of more than 22 thousand students. The share of technical specialties is 30%, there is growth in the number of students in areas of engineering profile over the past 3 years, new specialties and areas in oil and gas business, chemical engineering, land and inventories have opened. Implementation of 11 aggregated groups of directions of preparation of engineering profile indicates a regional feature - the need for specialists in engineering construction and mining-geological areas (Fig. 1).

NEFU Development Programme for 2010-2019 with the approval of the financing plan for 5 years to 1 billion rubles a year creates new conditions and prospects for the university. Already, much has been done: new structural units, Arctic Innovation Center (AIC) is formed, 12 small innovative companies are established, and infrastructure of scientific and educational complex has been significantly upgraded.

Under the direction of the strategic goals "Modernization of content and organization of educational process, taking into account global trends in technology and technology education" is defined as the
provision of quality education, enabling a graduate of the University to be competitive in today's labor market in the social sphere.

The solution to this problem is directly related to the transition to the university tier training. A lot is made, convert touched organizational and managerial, logistical, and financial systems of the university, but the University cannot rest on its laurels. Transition to the tier education is associated with the need to consider several important factors.

First is ensuring willingness of the management personnel and the teaching staff to create the conditions for transition training units in the Tier education.

Changing the organization of educational process is manifested in the fact that the principal is a choice that carries a student (the choice of the educational program, the sequence of study subjects, elective courses, educators, and the formation of individual learning plan). Accordingly, the task of the university is to provide such a choice. This approach allows the student to choose the level of professional knowledge, which at this time corresponds to his desires, and abilities.

Indeed, the tasks of reorganization are complex, are heavily influenced by external factors, long-standing principles and the future are too uncertain to global programs to have been effective. Engineering education is developing in an outdated methodology and methodological framework, structure and content of education is insufficient for its gradual integration into the global educational environment.
Building a basic educational program based on FSES (federal state educational standard), is necessary to use the principle of "cutting units", which consists in determining for each program (directions included in LGS) of several modules available as components of operating on one of the goals of generalized training education program as a whole, providing formation of culture in general and professional competencies. The curricula should be built on the principle of credit-modular system, while the module may include various disciplines of the cycles ȽɋɗȿɇɈɉȾ, the contents of which must comply with the goals and objectives of the module. This approach is intended to establish the correct logical sequence of study disciplines, interdisciplinary communication and provide an opportunity to respond quickly to changes, makes more and more specific and stringent requirements of a modern technical college graduate.

Second, research should be a platform for generating new knowledge and its transfer to the educational process in the region's economy through innovation. To date, research is often aimed at improving the academic and formal accreditation indicators of the University especially on the number of defense of theses and publications.

In turn, the only serious scientific organizing training through the Masters, it is possible to prepare the elite of engineers, skilled technicians and managers, cultivating and promoting the training of the teaching staff through postgraduate and doctoral studies. Scientific activities in the universities should have an organized structure and a coherent management system. It is necessary to move away from the fragmentation of research, from the crushing of the cathedral in favor of consolidation trends and magnitude of research, it is necessary to promote interdisciplinary and multidisciplinary research. Of particular importance is the collective use of unique and expensive equipment in the preparation of undergraduate and graduate students.

It is useful to create a basic research laboratory, which will become an effective link in the technological chain of students receiving the latest scientific knowledge, coupled with involvement in the actual research work itself, on the one hand, and present a platform for effective innovation, on the other.

Landmark in the field of research should be a priority of modernization and technological development of economy of Russia: Priorities for Science, technology and engineering in the Russian Federation, approved by the President of the Russian Federation May 21, 2006, № Pr-843, Critical Technologies of the Russian Federation, a list approved by the President Russia May 21, 2006, № Pr-842.

It is necessary to establish effective mechanisms of cooperation with academic science and the real sector of the economy of the region. We are aware of current research should create an opportunity to attract extra-budgetary funds to high school.

In the absence of legal and financial mechanisms to stimulate innovative activity of universities, a system of incentives and privileges to attract private investment in the creation of small innovative companies, introducing new technologies into existing manufacturing, commercialization of research results to become a regional center for university communications business, society and the state on forecasting scientific and technological development, research, technology markets in the world, solutions to global problems. To carry out innovation activities groups (eg, within AIC of NEFU)should be established, which are directly involved in research in the field of technological development, scientific and technological forecasting are resource centers for enterprises and organizations of industries in the region, carry out consulting and information-analytical activities, and etc.
Third, a distinguishing feature of the regional universities is practice-oriented focus of graduate training. Preparation of engineering staff is carried now in the lack of participation of employers, the effective implementation of production practices on the basic facilities in the region is not ensured, legal and financial issues of cooperation between universities and enterprises operating in the region are not resolved. Modern curricula is insufficiently adapted to market conditions and do not always give students the opportunity to get a good hands-on training. According to employers, if the academic level of students is evaluated relatively high, weak manufacturing practice of graduates in many respects does not satisfy the employers.

It is necessary to bring the content and structure of vocational education in line with labor market needs. In particular, the need is to significantly improve the organization and content of practices to enhance the action-orienting, to invite key personnel and managers to training, to organize and to carry out practical work at enterprises of different forms of ownership.

In turn, the scope of vocational education always has a need for additional education, training and laboratory and ancillary areas. It is necessary basing on the mechanisms of public-private partnership to engage in educational activities of the enterprise industry and research institutions, to create experimental design bureau, development zones, educational and experimental farms, laboratories, remote access, etc., to implement network-based educational programs.

With the increased requirements for the competence of graduates of educational institutions, a number of fundamentally important problems arouses, which essentially amounts to a contradiction between the need to substantially increase the level of knowledge and skills of graduates and the uncertainty of the methods and means of achieving this level. For example, training of teachers of educational institutions or work experience of students through their training at the enterprises of building industry, enabling them to decide on the spot with the requirements of employers, and it would seem the possibility to get acquainted with new equipment and machinery on which our graduates will be working. But almost all of the material-technical base of construction industry is in stagnation itself and requires substantial modernization and adaptation to the modern market economy and new technologies. At the same time they speak of modernization and the prospects of the advanced training of skilled workers. Today, this issue needs to be a very serious consideration, since to prepare the modern engineer without the proper equipment is impossible.

There is no state system, which obliges the employers of enterprises, organizations, institutions, companies and private entrepreneurs to take students to practice, to ensure their workplace rights as members of the personnel, to mentor. Currently, not all employers are interested in organizing Student practices on their enterprises because this activity requires additional work, time for leadership and mentoring, resources, in which the facility is limited. There is no public funding target of the scope of the employer.

Thus, the certification of the results of the practice can allow to evaluate the production skills of students, but only if the practice itself was organized at the appropriate level: the true basis of selected practices, if consultants on the university and the head of the organization are the qualified experts, and students themselves work with modern equipment and are allowed up to real projects.

One of the major problems associated with changes in the labor market is the threat or unemployment of graduates or employment in other areas. Graduates, as young professionals are among the most poorly protected population, apparently without adequate public support, without the regulatory mechanisms of social support for young professionals, the problem is not solved by a single university. Nevertheless, the task of engaging employers in work on the employment of graduates and
their adaptation to the production must become a priority for high schools. Thus, in order to facilitate
the employment of graduates, assisting in the planning and career development and organization of the
temporary employment of students the Career Center is created by NEFU, job fairs are held.
Nevertheless, companies, organizations and employers are involved in this area not at the proper level,
since there are no economic conditions for their participation. It is necessary to establish long-term
cooperation with enterprises of the university and companies interested in graduates. In these
conditions it is necessary to create specialized structures within the institution, which should
specifically deal with employment, while in the market conditions new approaches are required and
ways of solving the economic problems of their incentives (funding). Today, the promotion of
employment of graduates is, unforeseen for employees of departments issuing additional and is run,
respectively, without the necessary planning and under-performing.
within the framework it is useful for the universities to learn how to forecast the demand for specialists
in a particular profile, both in the short and long term, and to respond to a change in the curriculum
and educational programs.

Fourth, additional education in high schools often has a central character, entailing separation from the
production sector, and requests the sphere of consumption, becoming less and less attractive in terms
of investment business interests. The most explicitly it is expressed in the professional engineering
education. It is characterized by the absence of effective sustainable backward and forward linkages
with the manufacturing facilities, lack of interest in industrial structures to the system of additional
education. Additional education, now being an important component of lifelong learning, is designed
to respond quickly and effectively to new demands of the regional economy, the growing public
demand for further training and retraining. First of all, the development of additional vocational
training will help create and establish the national accreditation systems of engineers. We need
massive training and retraining of skilled engineers and technologists through additional education,
primarily through synergistic partnerships with industrial companies. The attractiveness of further
education to the labor market and the content and quality of educational services to the needs of the
manufacturing sector should increase. And also it is necessary to involve the region's industry leading
enterprise in the educational process, using their productive and innovative potential and to interact by
creating industry centers, certification and qualification of specialists and engineers.

Fifth, undeveloped system of purposeful work with gifted children and talented youth for entry into
technical specialty remains a serious problem. The extremely uneven coverage of pupils with
additional educational programs, in rural areas there is a complete lack of it is noted. In such a
situation it is necessary to take advantage of a regional university in the vicinity of the candidate, the
selection of effective mechanisms of quality applicants, as well as the possibility of academic
institutions and specialized agencies, further education students, physical and mathematical forum
"Lena Region" and Small Academy of Engineering. In NEFU, a system of networking with
educational institutions in the Far East Federal District is formed. One form of networking is the
association of "Northeastern University Educational District", which brings together 56 educational
institutions of various types and forms of the Republic of Sakha (Yakutia), Magadan region,
Kamchatka, Chukotka Autonomous District. Association of the University, schools and vocational
education institutions can, on the one hand, ensure openness, accessibility and variety of education,
both in the republic and the region as a whole, ensure the continuity of school and university education
on the other.

Finally, in accordance with the new economic relations and ensuring humanity and giving flexibility
in the education system, you need to make adjustments to the conceptual principles of the education
system, teacher to student ratio. To develop the conceptual principles they must focus on economic approaches, today they need to involve students, parents, employers in the education process, as consumers and clients. Today, the student is no longer raw but is a customer, he is no longer the object but the subject of education, and becomes a part of the formation of the educational process.

The administrative approach to quality education, in which the quality was determined on the basis of the sessions, as the degree of ownership of the future professional standard of knowledge and skills, not passed the session ruthlessly deducted, is obsolete. Following the real economy, we must realize that in the new environment economic approaches to education, its quality management, responding to the request is required.

The situation in the field of engineering education demonstrates the need to overcome the systemic adverse effects, dramatic organizational changes in the structure of engineering education, to improve the quality of training in accordance with modern socio-economic development of North-East of the Russian Federation, the requirements of a single world community and the educational experience of highly progressive countries.

Existing problems of engineering education require comprehensive solutions. Solving the problem we see is in the conceptual development of a regional program of technical education, the development and implementation of which, the definition of an overall strategy, the main directions, priorities and targets should involve coordinately university, government and business in the region.

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Abstract

New possibilities given by development projects financed from the European Social Fund allow for extensive assessment of knowledge and skills relevance for labour market. At Wroclaw University of Economics (WUE), systematic measurement of students’ quality conducted by the University is accompanied with extensive research of employers’ perception of University graduates. The paper presents analysis results of internal and external assessment of the quality of knowledge and skills along with their relevance for labour market needs. Analyzed internal data is collected in the process of education. It is enriched with extensive data collected by survey of employers’ opinions. As a result of analysis, the appropriate measures are taken to improve the quality of curricula, teaching methods, and to introduce soft skills development actions in the University practice.

Key words: Quality assessment, European Social Funds, Labour Market

1. INTRODUCTION

The realization of full potential of human resources is of enormous importance in knowledge based economy. Modified Lisbon Strategy and Strategy Europe 2020 both emphasize the necessity of adjustment the knowledge and skills of labour market participants to present expectations and needs of employers. In case of persons who already finished their education this process of adaptation is realized mainly by efficient and effective lifelong learning (most often in the form of adequate training and other forms of additional schooling). In case of persons who are still in education system the activities are focused on modifications of curricula in order to make them more relevant for present labour market needs. High schools, and especially Universities, have particularly big role in this process. For many years the Universities have acted in the area of improving the quality of education, primarily by means of surveys among students focused on the evaluation of educational processes. Since recently intensified actions are conducted in the area of cooperation with employers as well. The development of the later is possible to great extent due to external means of financing, mainly from the European Social Fund. The main goal of the paper is to present the potential possibilities of financing from European Social Fund the activities of Polish universities in the area of improving the situation of students and graduates while entering the labour market. Possible actions are described basing on the Wroclaw University of Economics experiences and solutions adapted since the year 2008. The presentation focuses on activities toward students as well as evaluation of the level of student’s preparedness using various sources of information.
2. THE POSSIBILITIES OF DEVELOPMENT OF POLISH UNIVERSITIES BY MEANS OF EUROPEAN SOCIAL FUND

In Poland in years 2007 – 2013 European Social Fund has been realized within the frames of operational programme named „Human Capital”. The programme budget is 11,5 billion Euro, 85% of which is financed by the European Union. One of the priorities of „Human Capital” Programme is dedicated to higher education and science. The biggest part of the funds in this priority is allocated for the projects focused on Strengthening and development of high school educational potential. The universities may apply for the means to finance its development programmes. Development programmes may be oriented on various activities, among others on the following:

— Widening and making the educational offer more attractive by creating and starting new study majors and new study specializations, interdisciplinary doctoral programmes, initiation of e-learning, adaptation of existing curricula to current needs of labour market.

— Creating equal education opportunities by teaching compensating classes designed especially for the first year students (in order to enable the students to make up for the arrears).

— Strengthening the University cooperation with the employers by organizing discussion panels on the evaluation and curricula modification proposals, open lectures and seminars for students given by business practitioners.

— Improving the students’ and graduates’ preparedness to enter the labour market by organizing internships, trainings upgrading the „soft skills”, as well as „hard skills”, activities directed at supporting the personal development of students (mentoring/ coaching/ tutoring).

— Improving didactical abilities of University employees in order to make the classes more attractive and interesting by training and study tours to leading academic centres.

— Building up the prestige of University and improving the access to the latest achievements of science by financing the stays of visiting professors from various scientific fields and enabling access to databases and scientific journals.

— Opening the University to local community by preparing and introducing the lifelong learning programmes directed most of all at increasing the skills and updating the knowledge of people working in the region.

In the years 2008 – 2010 seven competitions for high schools development projects were conducted. The fund allocation for those seven competitions totaled 565 millions Euro (2,34 billions PLN). Figure 1 presents the values of allocation, applied projects, signed contracts and accepted expenses.

The universities’ response to the competitions was enormous, due to the immense opportunities which the projects can provide. There were 1645 project applications for total sum of 9 billion PLN, which accounts for 385% of available allocation. From among all applications 366 projects were financed, and the total sum of signed contracts amounts 2,1 billion PLN. The contract amount forespends the available programme funds in 90%. Current amount of accepted expenses for development projects totals 1 billion PLN, what accounts for above 40% of all funds provided for development projects.
3. DEVELOPMENT PROJECTS REALIZED AT WROCŁAW UNIVERSITY OF ECONOMICS

Wrocław University of Economics is a public high school operating since 1947, currently ranked as the second biggest economic university in Poland. The University has four faculties of I$^{st}$ category and is authorized to grant degrees, among them PhD and doctor habilitatus. The University carries out first, second and third level studies for nearly 17 thousand students. Altogether it employs 1385 persons, including 709 academic teachers (142 professors). The didactic process at the University is supported by substantial number of institutional units. The University campus dispose of 32 building with joint area of over 100 thousand squared meters.

Since the moment that Poland joined the European Union WUE have been successfully applying for funding from European Social Fund. In the first programming period (2004-2006), the University obtained more than 7 million PLN (about 1,8 million Euro) for seven training projects devoted to employees of small and medium-sized enterprises and persons working in Lower Silesia. Thanks to those projects the University’s teachers could improve their training skills by working with diverse target groups. This experience has produced desired effects in the current programming period.

Since the year 2008, in the second programming period, the University has acquired enormous resources for the implementation of four development projects within the frames of Operational Programme Human Capital$^1$ with total amount of nearly 50 million PLN (about 12 million Euro). The projects are:

$^1$ OPHC Project: *Uniwersytet Ekonomiczny kuźnią kadr menedżerskich dla opartej na wiedzy gospodarki, (Wrocław University of Economics as a Staff Forge for Knowledge Based Economy)*; contract no.: UDA-POKL.04.01.01-00-091/08-00, implementation period 2008 – 2010. OPHC Project no. POKL.04.01.01-00-057/09 *Kuźnia Kadr 2, czyli wzmocnienie potencjału rozwojowego Uniwersytetu Ekonomicznego Wrocławiu poprzez rozszerzenie oferty edukacyjnej i szkolenie kadry dydaktycznej (Staff Forge 2, Wrocław University of Economics Development Potential Improvement through Broadening of the Educational Offer and Training of Staff);* Implementation 2009 – 2012. OPHC Project no. POKL.04.01.01-00-229/09 *Kuźnia Kadr 3, czyli wzmocnienie potencjału rozwojowego Uniwersytetu Ekonomicznego Wrocławiu poprzez rozszerzenie oferty*
main objective of all development projects is to strengthen educational potential of the University. The specific goals of the projects were primarily to enhance the cooperation with the employers in order to improve students’ and graduates’ preparedness to enter the labour market, to perfect training abilities of our teaching staff and to intensify the openness of the University to local community. Four projects jointly called „Staff Forge” consist of activities directed toward students, people outside of the academic community, as well as teaching and managerial staff of the University.

Main activity in the area of extending the University’s offer for the people outside of the academic community was the organisation and implementaton of modern interdisciplinary postgraduate studies targeting the people with extensive professional experience but without economic education. This idea has received recognition among the working professionals. There were three times more candidates than planned places. Additionally very rich of brief (up to 40 hours) training courses for working persons in the areas of University’s main field of operation has been prepared (including management, finance, accounting, marketing, usage of application software as well as business internationalization). These courses are very popular. Since the begining of the projects (from the year 2009 onwards) over 4 thousand working persons have expressed interest in the participation, and already more than 2 thousand have completed the trainings. It is worth emphasizing the fact that the offer of training was prepared in Polish, English as well as in German language. The offer for our teaching staff consist of trainings in the area of didactic skills conducted by professional trainers of adults (the so-called school of trainers and school of champions), study tours to foreign scientific and research centres, access to foreign databases and scientific publications in the fields of economics, management and finance. The possibility of financing the stays of visiting professors from words’ leading scientific and research centres is also of enormous importance.

However, the main target group of University’s development projects remain our students and graduates at all study levels. Actions in this area can be divided into four groups:

- Extension of the University’s educational offer through introduction of new specialities adjusted to the current needs of the labour market.
- Strengthening the cooperation with employers in order to modify and update the curricula.
- Actions addressed directly to students, whose aim is to equip young people with the practical knowledge and skills to help them succesfully enter the labour market
- Facilitating the access to full University’s offer for disabiled students.

Ad. a. Untill today six new specialities have been implemented at the University within the frames of development projects, all being elaborated as a response to the current market demand. The main three specialities are conducted in English language: Financial Management, Corporate Finance and Business Administration. The studies conducted in Polish language were developed especially for the needs of the treasury services (State Finances), and developed jointly with the largest regional company, a major and global copper and silver producer KGHM Polska Miedź S.A. (Project Manager and Business Analyst). What distinguishes these new specialities among others is that up to 30% of the courses is taught by practitioners and specialists from the industry concerned. Moreover the courses make wider use of modern teaching methods and place greater emphasis on transferring practical knowledge.
and skills that are cherished and sought-after by employers. Already 800 people have participated in the new specialization studies. Upon the testing period, the new specialities will become a part of the University’s commercial offer.

Ad. (b) Strengthening the University’s cooperation with employers consists foremost in organization of cyclic thematic discussion panels. The participants in those meetings are the employers from the Lower Silesia region and managerial and teaching staff of the University. The panels are dedicated to the elaboration of curricula adapted to current needs and expectations of the market for each individual major and specialty. Another topic of the meetings covers the issues of including practitioners in the process of teaching, among others by developing an effective system of coaching and mentoring. The main effect of cooperation in this area is establishment of HR mentor team consisting of 16 practitioners who were trained and prepared to act as mentors for University’s students, starting next academic year.

Ad. c. Actions addressed directly to the students include:

— Three-month paid internships – addressed to students of the last years of I and II level of studies, as well as to University’s graduates (up to 6 months from graduation). The number of the intern’s working hours is 15 to 30 a week. Each intern during it’s work is assigned a supervisor, which assists him in completing the scheduled internship plan. The University periodically cooperates in this field with nearly 300 labour market entities from Lower Silesia region (enterprises and public institutions). Since the year 2009 already over 2300 persons have benefited from internship programme, 67% of them were women. According to the students, this is the most effective form of support which gives them the possibility of practical training before starting their professional career. It is worth emphasizing that nearly 30% of the interns is employed by the institutions, which held the internships.

— „Soft skills” trainings and workshops in the areas usefull at the begining of professional career (e.g. setting up own business) or particularly cherished by the employers (integrated management systems, multicultural communication, implementation of the Europe 2020 Strategy issues). Untill now almost 1000 students benefited from the variety of those kind of courses. The vast majority of them found the classes very interesting and useful in work search.

— Seminars with business practitioners organized as the cycles of four three-hour meetings for students in groups of 15-20. Seminars are themed and concern various practical aspects of the specialized work position and/or specific occupation type. Among other things students can learn whether their perceptions of future work are correct, what knowledge and skills are necessary to meet the requirements, what is the potential career path, etc. Students are very willing to participate in that kind of classes and appreciate their high quality. As for now nearly 300 people benefited from this form of assistance.

— The Staff Forge Academy is a cycle of open lectures taught by business practitioners. The first edition of the lectures was held in the current academic year. The offer consisted in 10 lectures on various topics carried out by specialists in diverse fields. The persons who participated in at least seven meetings received a certificate and 1 ECTS point. The first edition of the lectures had 120 graduates.

— Coaching is the latest of activities addressed to students, started in March 2012. Four professional coachów took under their guardianship 40 students. The first experiences are positive and promising, subsequent editions are planned for the next academic year.
Facilitating the access to full University’s offer for disabled students is realized by lifts installation in all main University’s buildings, equipping 12 classrooms with appropriate facilitations for people with disabilities and providing three sets of computer equipment for the visually impaired (laptop, software, enlarger). In the following years further investments are planned. Due to those facilitations the University has become more open, and the percentage of people with disabilities studying at the University is increasing systematically.

4. THE EMPLOYERS EVALUATION OF WUE STUDENTS’ AND GRADUATES’ PREPAREDNESS LEVEL

The employers which cooperate with the University by means of paid internships are each time asked to evaluate our students and graduates. Survey of employers' concerns three aspects: assessment of the interns’ preparedness to enter the labour market, assessment of interns’ possible competence vulnerability and the overall assessment of the economic major graduate’s adjustment to employers’ expectations and requirements. The main source of information are reports from the biggest cooperating companies, in which the number of interns was at least ten. The opinions are collected from interns’ supervisors, who have had direct contact with young people for three months of internship.

The evaluation results are not very optimistic. For example, one of the cooperating major bank concluded inter alia that ¼ of the interns did not meet expectations in terms of the „soft skills“ (e.g., motivation, cooperation, commitment, initiative), and 1/3 of the interns did not meet expectations in terms of the substantive skills (e.g. substantive knowledge, software and knowledge). Identified gaps in the area of the „soft skills“ primarily concerned motivation to perform specified work, involvement in the duties performed, the initiative to take additional duties, communication skills, independence, time management and creativity. Gaps in the area of substantive competences are mainly the knowledge of relational databases, SQL, VBA, MS Office (especially in practical applications of Excel), the knowledge of banking products and general knowledge of banking.

On the basis of conducted research potential pluses and minuses of our interns can be formulated. The pros include among others very strong motivation and willingness to develop. The interns have a lot of new ideas and are effective in work related to new media. They often have unique skills in this area (design, graphics, programming on facebook), sometimes at a higher level than company’s employees. They work quickly and are accustomed to the fast rhythm of life. They are flexible and can easily adjust to the circumstances. They have good computer and language skills, often at a higher level than the average in the company. The main minuses of the interns are:

— Occasionally they have stress-free attitude toward the work and the responsibilities. They tend to forget about their duties, perform them inaccurately or imprecisely. They should be instructed and taught about the difference between the studies environment and business environment, the latter being more demanding and requiring greater responsibility.

— High confidence. Students (especially 5-year year students) wish to be managers directly after graduation. It takes half-year to one year to teach them some humility.

— They are unable to see many business limitations. More practical classes at the University (like case studies, business games) would be advisable.

The proposals of activities that University can undertake in order to improve the students’ and graduates’ preparedness developed by the employers are as follows:
Activities in the field of transferring practical knowledge on databases and the use SQL, or Access.

Broadening knowledge of Excel with special focus on advanced features and methods of data presentation.

Course in practical application of statistics in the company’s operations (data distributions analysis, forecasting on the basis of historical data), SAS, SPSS.

Workshops preparing students for entering the labour market, public performances and autopresentation trainings.

Negotiation and sales techniques workshops.

Workshops in developing group cooperation competences and skills.

Clearly employers are primarily focused on the practical preparation of future employees, which enables them to use specific software, and on the high level of „soft skills“ resulting in efficient communication and group cooperation.

5. EVALUATION OF SECOND LEVEL STUDENTS’ KNOWLEDGE AND SKILLS

The Bologna process on the one hand introduced facilitations for young people who want to study and come from different countries or regions, on the other hand however it complicated quite heavily the process of second level studies. The problem lies in the regulations which give possibilities of accepting for the second level studies all persons who have completed undergraduate studies (first level), regardless of their major. The necessity to adjust universities’ rules of operation to the Bologna process results in situation where the second level studies candidates held Bachelor degrees in varied areas. This applies particularly to students undertaking part-time studies. In the case WUE, in order to enable effective studying complementary courses must be elaborated (for example in form of e-learning classes) in order to update the students’ knowledge in the fields of economy and management. Hence the idea of research on evaluation of knowledge and skills of students undertaking part-time second level studies, which was conducted within the frames of development projects. The research has two objectives: diagnosis of the knowledge and skills of persons starting the second level studies and diagnosis of the increase in knowledge and skills after the completion of the studies. In the academic year 2011/12 in order to standardize the questionnaire pilot survey was conducted among the students of the first year on all majors. From the current academic year all students undertaking part-time second level studies will be subject of the research. The pilot survey was conducted using face-to-face method, the following surveys will be carried out on-line.

The research is divided into three parts. The first and second parts are carried out in the beginning of the first year of study, the third part just before the graduation. The first part is anonymous, the two remaining parts are assigned to specific respondents. The first part results in the description of the characteristics of the student starting second level study. The students are asked, among other things, why have they chosen this University and what are their expectations. The analysis of results reveals what factors are especially valuable and important for our students, and which issues will determine the succes of certain phase of the study (e.g., getting a good education and scientific title or acquiring an attractive job). The second and the third stage of the reasearch focus on the level of knowledge and skills. The diagnosis of skills’ level concerns behavioural competences – i.e. „soft skills“. It gives the answer to the question how people should behave. We are examining, among others, the ability of work self organization, the ability first consider the detailed issues, and later to transfer the
conclusions to the company’s specific situation and to see their references to larger concepts, the ability to make important decisions, the ability to cope with stress, motivation to work, ability to work in a team and to delegate tasks. The diagnosis of knowledge level concerns the level of technical competence - i.e. „hard skills”. Responding It gives the answer to the question what people should know. Its purpose is to investigate the basic knowledge in certain fields. Thanks to the results from the second stage of the research we are able to identify individual’s competence vulnerability and areas to make up for, as well as adequate to their situation compensatory courses. The third part of the research allows you to determine the increase in knowledge and skills.

6. THE EXAMINATION OF GRADUATES’ PROFESSIONAL PATHS

The amendment of the Higher Education Act introduced in Poland in the year 2011 imposed upon the universities the obligation of monitoring the paths of the graduates. The overall aim of this action is the modification of curricula in order to meet the requirements of the current labour market and employers’ expectations. The WEU began its activities in this area in 2011 within the frames of the development projects. The main objectives of the research are to investigate the graduates’ professional careers, recognize the evaluation of education level and identify graduates’ competence vulnerability.

The first telephone interviews (CATI) and targeted interviews (face to face and on-line) were scheduled in May and June 2012. Four respondents groups were defined: WEU graduates who have completed the studies in 2011 (all faculties, modes, levels, majors), WEU graduates who have completed the studies before 2011 (all faculties, modes, levels, majors), the WUE graduates’ employers from Lower Silesia region and University’s administration representatives. Using the funds from the development projects 10-stand CATI lab was fully equipped and 8 pollsters (our students or graduates) were trained. Their task was to survey nearly 3500 graduates from the year 2011. The first results are very promising. The respond rate is at 55%, and only 2% of respondents refused to participate in the survey. Gathered experiences helped to formulate first conclusions regarding the usefulness of the CATI method in this type of research. The pluses of the method are: low number of refusals, possibility of repeated contact with the same person, control over correctness of interviewing process, standardization of the manner of asking questions and the fact that the data is available during and immediately after the completion of the survey. The minuses include: the need to collect the phone numbers, the possibility of changing the number by the respondent, refusals to answer the calls from unknown number, and a limited number of questions and answers.

In order to obtain enhanced results qualitative research was used. Focused interviews were conducted on all four of the aforementioned respondents groups. So far we've carried out eight interviews with graduates (3 face-to-face, 5 on-line) given that they know what they are missing at work, two face-to-face interviews with employers, because they know what the graduates are missing, and one with representatives of the University administration, because they know what improvements are necessary at the University. The pros of FGI method include the opportunities for the graduates the return to the University, the opportunity to observe the non-verbal reactions, the possibility to explore the spontaneously emerging topics. The cons of the method are difficult recruitment and implementation (self expression, informational conformism), the necessity to transcribe the interviews, high costs due to the catering and distributed gadgets. However when OFGI is used, most of the weaknesses disappears and the groups are usually much easy to recruit, and in addition they are much more creative and open. Significantly more respondents declared willingness to participate in the on-line focused interviews (for 384 people 69% agreed only to this form of survey). The respondents pay
attention to the greater sense of anonymity, less stress and greater sense of satisfaction from their interview.

7. CONCLUSIONS

The 21st century poses large challenges before European societies. The rapid development of organizations and modern technologies causes fast expiration of the knowledge obtained during education years, which makes the process of learning even more difficult. In this view, the universities are forced to constantly monitor the effects of training and modify curricula adjusting them not only to current but to the future labour market needs as well. To meet this challenges the universities must broaden their cooperation with employers, in order to practically prepare their students for the expectations and requirements of the economy. Cooperation with business practice can offer mutual benefits, but before this happens, both sides must be convince to the cooperation and develop a model of cooperation/agreement. In order to develop models of cooperation with the employers Polish universities broadly benefit from ESF. The possible forms of activities give hope that in few years the system of cooperation with employers will be broad and effective. An important element in the evaluation of the education quality is examination of graduates’ professional paths, which in Poland since 2011 is one of the statutory duties of the university. Presented in the article proposals of the solutions adopted in the WEU indicate qualitative changes in Polish higher education. The ability to use different sources of information and regular research allow to permanently monitor, and thus quickly adapt the forms of support to the identified needs and problems.

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THEORETICAL MODEL OF THE DEVELOPMENT OF THE CREATIVE POTENTIAL OF PROSPECTIVE TEACHERS BY MEANS OF THE ARTS

Irina Direktorenko, Daiga Kalēja-Gasparoviča
Riga Teacher Training and Educational Management Academy,
Imantas 7 Īnija 1, Riga, Latvia

Abstract

One of the major aspects of the professional training of prospective teachers is the realization and development of their creative potential. The effectiveness of this development is enhanced by the creative activity of the teachers themselves, their involvement in the sustained pedagogical self-development. The paper addresses the pedagogical aspect related to the awareness and development of their own creative abilities and skills in various art realms (music, movements and dance, visual art). The research deals both with the pedagogical process in the above realms and the development of their creative potential and the self-realization of students - trainee teachers in their creative activity.

The aim of the study is to analyse the nature of the creative potential, to design a theoretical model of the development of the creative potential of prospective teachers by means of the arts and define the criteria for its development and provide students with opportunities for self-realization in art realms.

Key words: creative potential, creativity and skills, self-realization, the model of the development of the creative potential in art studies.

INTRODUCTION

Research findings reveal that a productive existence of a human in the modern changing and dynamic world is promoted by their adaptability, non-traditional approach and originality potential, concurrently enjoying the creative process and enriching the creative individual experience in diverse realms of lifetime activity (Maslow, 2003; Sternberg, 2006; Csikszenmtihalyi, 1999; Cropley, 1999). Thus, creativity is becoming an important factor in an individual's self-development, self-perception and the quality of life. Nowadays the development of creativity has become a key concept in all age groups, which includes critical thinking, creative problem solving, idea generation in different lifetime domains and situations.

The aforementioned tendencies correlate with the innovative processes in education characteristic of the present stage of the development of Latvian society. It imposes new requirements on the professional training of prospective teachers in the sphere of creativeness. One of the most important aspects of the training process is the emphasis on identifying and developing students' creative potential, promoting their creative activity in the study process. Contemporary school currently requires a teacher having had an extensive humanitarian training endowed with capabilities both to teach and educate. Therefore, the teacher's ability to think creatively is of paramount importance. To attain educational goals the teacher has to be a creative personality him/herself being well able to
master the methodological basis whereby his/her thinking and, eventually, creative activity manifest themselves.

Creation, free from stereotypes has been emphasized as a basis for the development of social and economic innovation. It is accentuated in the Declaration of the UNESCO International Commission on Education for the 21st century under the conditions of the formation of sustainable society that a personality exercising free will and being able to self-actualize to his/her full potential is of great value to society (UNESCO, 1998). One of the guidelines calls for enriching people so that they would be open to continuous self-development in order to find their place in the changing world and control the quality of their lives. Special emphasis is laid on the need to develop the aspect of all capacities - to ensure the freedom of human thinking, reasoning, senses and imagination indispensable for boosting individual talents and determining one's own life. Not the least of the parts in the development of the above abilities has been assigned to art.

The research-based European Commission work programme for Education and Training 2010 – Lifelong learning for knowledge, creativity and innovation bears a testimony to the significance of art in promoting individual creativity. It provides accessibility and democratic nature of art studies: promoting access to art education at all levels and all ages, encouraging artistic awareness and artistic activity. It is emphasized that introduction of regular art study courses both into school curricula and vocational training, as well as lifelong learning programmes is essential for the advancement of personal creativity as part of lifelong learning process. (Eiropas Parlamenta 2009. gada 24. marta rezolūcija par mākslas studijām ES/ European Parliament Resolution of 24 March 2009 on art studies in EU).

The teacher training system presupposes the identification and development of the unique creative individuality and abilities of the trainee teacher. However, it is generally neglected in a higher educational institution. Thus, to a certain extent it is indicative of the process of the reproduction of uniform attributes of the trainee teacher's personality. It is one of the serious shortcomings which is internally contradictory to the very concept of the approved training system. The target which is to be attained by a higher pedagogical institution is to form a creative personality of the trainee teacher, however, it is implemented within a framework of mass training. Therefore, it is essential that the conception of mass reproduction of the teacher be substituted by an individual and creative approach to teacher development. It presupposes identification and development of the creative potential of the prospective teacher, development of their professional views taking into account their psychological peculiarities. Meeting these targets will provide conditions favourable for the development of psychological readiness of the prospective teacher for creative pedagogical activity.

The professional training system of the prospective primary school teacher is focused on educating of a professional mastering diverse methodologies of the subject matter and being able to apply them creatively in their pedagogical activity. However, the topicality of education in modern school is the ability of a teacher to apply skills to use artistic resources of various arts in their pedagogical work apart from being able to exercise their professional skills in their entity. Eventually, it will contribute both to the successful implementation of creative as well as pedagogical aspects of prospective teachers' activity directed towards the management of diverse activities of their learners.

Consequently, the basic strategy of modern education has to be constituted by the subjective development of the teacher, the development of his/her professional awareness and individuality. It is essential that the creative potential of each student be identified and developed. Therefore, under the conditions of a pedagogical institution the study courses like "creative self-expression in music and movement", "creative self-expression in visual arts" were introduced for the purpose of developing the
students' artistic and creative abilities by means of various arts. However, fairly satisfactory practical results on completion of the courses by the students necessitated provision of relevant theoretical grounding as well as design of a model of the development of the trainee teacher's creative potential.

The majority of research areas highlight issues relating to a creative personality, development of creativeness, its diagnosis and creative abilities. The issues of the development of the creative potential of a personality have not sufficiently been dealt with. The issue of the development of the creative potential of the personality of prospective teachers by means of diverse arts in the study process of a higher educational institution has not been considered either.

Having studied the above issues the following controversies can be defined:

- the gap between the level of the student's professional readiness for professional activity reached in a higher educational institution and the targets of their further pedagogical activity requiring the teacher's creative endeavour;
- the gap between the requirements for the development of the creative personality of a teacher by means of the arts and lack of theoretical grounding and pedagogical technology for the attainment of the above target.

The aim of the research is to give a theoretical grounding in the issues of the development of the creative potential of prospective teachers, design a model of the development of the above potential by means of the arts and define criteria of its development.

Research object is the process of the development of the creative potential of prospective teachers in the study process of a higher pedagogical institution.

Research subject is the development of the creative potential by means of the arts.

Research methods - theoretical analysis (analysis of scientific literature and periodicals relating to pedagogy), observation method (observation of the study, artistic and creative activities of the students).

CREATIVE POTENTIAL AND ITS NATURE

Creative potential is a distinguishing feature of every personality, which is not dependent on his/her occupation. The creative potential of a teacher is not anything bestowed upon a person once and forever. Its emergence occurs in the family and school, but its development proceeds and intensifies further on during the period of intensive pedagogical activity. The efficiency of emergence and development of the creative potential of an educator depends upon the creative activity of the educator him/herself and his/her involvement into sustainable pedagogical self-development.

There is a great variety of definitions of both creativity and creative potential. These concepts are closely interrelated. E. Torrance wrote that creativity cannot be explicitly defined (Torrance, 1998).

In psychology creativity is considered from three aspects: as an attribute of a personality, as a process and the product. According to Bebre, creativity is characterized by originality, innovation, anticonformism, courage etc. As a process creativity is characterized by creative intuition, rich imagination, divergent thinking, inspiration, psychic plasticity, subconscious and overconscious activity. The creative product in different sectors (art, science, technology, pedagogy etc.) is characterized by innovation and public importance (Bebre, 2003).
On the other hand, today's researchers suggest other structural divisions of creativity as well. Thus, for instance, Z. Ivcević (Ivcević, 2009) has created taxonomy of creativity distinguishing between three dimensions: 1) creative potential, including personality, aptitude, cognitive processes, 2) creative behaviour that characterizes the current, externally observable creativity in creative interests and the real achievements, 3) creative environment which includes its physical, social characteristics in the context of cultural and historical era.

Presumably, the concept of creative potential is related to a personality. According to Рындак, the creative potential of a personality can be defined as an integral entity of innate and social attributes of a person that maintains his/her subjective need for creative self-realization and self-development (В.Г. Рындак, 2006). Thus, the potential of a personality represents their abilities, cognitive processes (innate efficacy) which are connected with their social endeavour (social efficacy of a person). Within the framework of a person's social endeavour the creative self-realization of the subject of pedagogical activity occurs. Therefore, according to Мартынина, creative potential can be defined as integrity of value, cognitive and behavioural components (Мартынина Н.Б., 2008). It can be illustrated as follows (see Fig. 1):

![Diagram of the components of the creative potential](image)

**Figure 1:** Integration of the components of the creative potential (Мартынина, 2008)

Each component of the potential comprises different elements of its development. It may involve either awareness or acceptance of the very nature of creativeness or focusing on creativeness in pedagogical activity, as well as development of artistic and creative abilities of the students etc.

In psychology there exist also models of the stages of the creative process (Wallas, 1926), wherein the classification and the succession of the stages of the creative process are given.

On the other hand, creative process can be dealt with in the context of a personality and culture.
L. Vygotsky's concept of creativity and development provides a good vision for the process (according to Moran, John-Steiner, 2003). L. Vygotsky associates creativity with the development wherein such processes as internalization and externalization manifest themselves.

The process of internalisation is associated with the acquisition of cultural heritage. As Slastenin states,

„Culture means creativeness at all times being endowed with all the characteristics of a creative act” (В.А. Сластёнин, И.Исаев, Е.Шиянов, 2002).

This process contributes to the development of the creative abilities of an individual, and all the inner resources of one's "self" find their manifestation there.

The process of externalization is a synthesis of emotionally-based symbols that eventually induces expression which in its turn materializes in shared ideas, knowledge, emotions, beliefs and culture (Moran, John-Šteiner, 2003). Consequently, the creativity potential is constituted by the factors of two types - determining factors that are specific personality qualities (motivation knowledge, personality traits, values, mood, cognitive abilities) and influencing factors that represent environment and socialization institutions. A particular environment and institutions promote the factors determining the potential for creativity. The factors influencing the potential for creativity can be classified as follows:

- natural development of creativity potential (a considerable impact is exerted by the specific character of family or educational institution) (Runco, 2007),
- purposeful development of creativity.

So, we will consider the issue of art studies in the pedagogical process of a higher pedagogical institution whereby the targeted promotion of creativity potential is provided.

PERSONALITY ACTIVITY APPROACH TO ART STUDIES

A purposefully modelled didactic situation eliminates discrepancy between the achieved level of the student's creativity, on the one hand, and the achievable one in the study process, on the other hand. The central idea permiating humanistic pedagogy (Леонтьев, 1975; Выготский, 1991; Špona, 2004), like the concept of humanistic psychology, presume the belief that an individual's sense and aim of life is self-actualization, and his/her activity is motivated by the hierarchy of needs and his/her innate drive to self-realization (Маслоу, 1999). In conformity with this approach relevant pedagogical requirements are imposed on the pedagogical process in art studies which would provide favourable conditions of pedagogical environment, and the student's self-realization would be supported. These requirements comply with the personality activity approach which is focused on learning and interaction (Выготский, 1991; Špona, 2004). The personal significance and authenticity of learning propounded by the above didactic approach is one of the psychological prerequisites for the development of the creativity potential. It presupposes proactive involvement of an individual him/herself in the personal perception and interpretation of the surrounding world, in constructing new knowledge and meanings by means of diverse ways of reflection. This approach presupposes a special role for the lecturer as well:

- a coordinator and promoter of action who encourages students to retrieve to memory, evaluate, discuss and analyse their experience;
• a prompter of action whose task is to raise emotionally unconstrained pedagogical morale that would encourage students to involve in a new experience.

Conclusions of activity theories and those suggesting human development through doing (Leonтьев, 1975; Выготский, 1991; Špona, 2004) form a unified viewpoint, alongside with the belief of humanistic pedagogy, about an individual self-realization, presuming that learning is a purposeful, motivated activity the productivity of which is determined by the qualities of the student him/herself, wherein the lecturer assists the student in his/her activity to transform the learning process into an internal psychic activity. In the activity-centred art study process learning is a process based on the student's activity, wherein the management of the result getting occurs in collaboration between the lecturer and the students. Learning as a purposefully organized activity of gaining individual experience develops not only cognitive abilities, but also attitudes and broadens individual creative experience. In its turn, creative experience includes such components as emotions, motives, interest, needs. Thereby, one can infer that the aim of pedagogical activity is to organize pedagogical environment, wherein the lecturer helps the student actualize experience and motive based on the student's actual needs. Teaching methods and the activity of the student him/herself allowing for self-expression in the artistic process can be viewed as a persistent source of interests throughout the art study process. Interest is a fundamental quality of a personality which determines individually significant experience (Шукина, 1971), its motivational source may be an opportunity to be actively engaged and gain recognition. The theoretical conclusions of humanistic pedagogy and humanistic psychology presuppose the principles of the lecturer's pedagogical activity emphasizing the need to enable students:

• to experience the learning process in art studies as personally significant;
• to acquire the study content which is personally significant;
• to engage into interaction with the lecturer without losing their own autonomy.

The above principles of pedagogical activity impose professional requirements on the lecturer: in order to organize activities in art studies a real professional, a competent specialist is indispensable, the one who forms a creative, positive, meaningful interaction with students, who is endowed with professional confidence, attitude towards the student, him/herself, his/her work, who determines the character of the interaction with the student purposefully creating a pedagogical situation contributing to the student's creativity.

In accordance with the personality activity approach, the procedural approach is emphasized also in the context of the development of the creative potential (Runco, 1999; Csikszentmihalyi, 1999; Дружинин, 2000; Нифо́ров, 1990), where the factors influencing it and theoretical approaches are clarified. In the context of personality motivation options of promoting creativity are stressed: delight of enjoying the process apart from achievements, discovering with interest, playing, inducing curious issues, creating original ideas (Starko, 1995).

The above opportunities of the development of the creative potential and equity in collaboration can be observed in all the stages of the organization of pedagogical activity i.e. in diverse forms of cooperative activity, wherein the lecturer's creative experience by working together enriches the students' creative experience.

In art studies in the process of self-expression the student has an opportunity to acquire individual components which are significant for the personality: to know him/herself, discover his/her abilities, interests, needs and values; while acquiring the language of art, materials and technologies, the student
creates an artistic and creative work which is significant for him/herself, gets to know and evaluates the process of creation/development/implementation of ideas. The motivational factors of self-expression are emotional impulses, choice of artistic means and their combinations that determine the principles of pedagogical activity. In the process of self-expression, while acquiring the contents of art studies, the creative potential of students is being promoted according to the criteria proposed by the present research.

<table>
<thead>
<tr>
<th>SELF-EXPRESSION</th>
<th>CRITERIA/FEATURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expressiveness appropriate for the personality level of each individual</td>
<td>Interest in new experience</td>
</tr>
<tr>
<td>Independent thinking</td>
<td>Independence; originality of thinking and action; novelty of ideas</td>
</tr>
<tr>
<td>Emotional release</td>
<td>Openness to new experience</td>
</tr>
<tr>
<td>Freedom and plasticity</td>
<td>Flexibility of thoughts and ideas</td>
</tr>
<tr>
<td>Easy adaptation to new situation</td>
<td>Self-esteem</td>
</tr>
<tr>
<td>Progress and success</td>
<td>Self-actualization</td>
</tr>
</tbody>
</table>

Table 1: Conformity of the pedagogical results of the process of self-expression to the criteria of the creative potential of prospective teachers

Consequently, creative self-expression occurs within a specific activity. Creativity manifests itself in this activity, on the basis of the development of relevant skills in the selected art realm (music, movement and dance, visual art). These skills are closely related to the knowledge and technical skills of a personality. The creative activity of such a kind can be performed if there is a favourably prepared mind. According to Guilford, "a prepared mind is the one which is endowed with facts, concepts, strategies, procedures and beliefs suitable for the relevant realm". (Guilford, 1975). In art realms knowledge includes understanding of the regularities in each realm, awareness of one's abilities, grasp of creativity. Technical skills are specific for each art realm and are based on practical skills in singing, dancing, playing the musical instrument, improvising, drawing and the ability of identifying an artistic image and expressing oneself emotionally in action (Table 1.)

The model of the development of the creative potential of prospective teachers in art studies.

To clarify how art studies promote the development of the creative potential of the students - trainee teachers The model of the development of the creative potential of prospective teachers in art studies was designed.

Offering acquisition of arts in the studies as a means of the students' self-expression/self-realization, it is appropriate to recognize the verity of creativity as a process in its development, wherein the best preparation is the creative activity itself (Lowenfeld, 1947). Consequently, acquisition of art in the studies is offered as a creative process of self-expression which is characterized by creative intuition, rich imagination, divergent thinking, inspiration, psychic plasticity, subconscious and overconscious activity; during the process of self-expression the product significant for the personality is being
produced, an artistic and creative work; in the creative process of self-expression, while creating the artistic and creative work, concurrently acquiring art, the development of the creative potential is promoted: according to the conception of the theory of humanistic psychology, the student's creative abilities which can manifest themselves in thinking and feelings (Roger, 1961), are promoted: originality in thinking and action, innovation, courage and daring ability etc. Analyzing creativity in art theoretically the stages of the creative process are emphasized: idea generation, maturation, implementation and verification (Birkerts, 1922; Bebre, 1983).

<table>
<thead>
<tr>
<th>ART REALMS</th>
<th>KNOWLEDGE</th>
<th>SKILLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSIC</td>
<td>Understanding of the regularities of musical art; knowledge and understanding of the nature of the means of musical expression; awareness of one's musical abilities and opportunities; grasp of musical creativity.</td>
<td>Acquisition of practical skills in singing, playing the musical instrument, capability for emotional and expressive performance.</td>
</tr>
<tr>
<td>MOVEMENT AND DANCE</td>
<td>Understanding of the regularities of dance art and musical and rhythmical movements; knowledge and understanding of the nature of movements; awareness of one's abilities and opportunities for rhythmical movements to the music; grasp of creativity in movements and dance.</td>
<td>Technical acquisition of movements and dance; capability to perceive the musical image and move correspondingly.</td>
</tr>
<tr>
<td>VISUAL ART</td>
<td>Understanding of the regularities of visual art; knowledge and understanding of the nature of the means of artistic expression; awareness of the nature of one's own abilities and opportunities for drawing; grasp of visual creativity.</td>
<td>Acquisition of capability for figurativeness and artistic expression.</td>
</tr>
</tbody>
</table>

Table 2: Development of creative abilities and skills in art realms

Table 3 shows the coherence of the stages of the above creative process and the subjective components of the art study process that provide theoretical confirmation of the psychological basis for the pedagogical activities of art studies.
<table>
<thead>
<tr>
<th>STAGES OF THE CREATIVE PROCESS (P.Birkerts, R.Bebre)</th>
<th>STAGES OF THE PEDAGOGICAL PROCESS OF ART STUDIES (D. Kalēja-Gasparoviča)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Idea generation</strong> occurs on the basis of the wide background of motivation when the impetus for creative activity emerges.</td>
<td><strong>Unlocking and developing of emotions</strong> – methodological approach, emergence of an impulse, draft targets, targeted activity criteria, information gathering, idea generation (sources of inspiration).</td>
</tr>
<tr>
<td><strong>Maturation of the idea</strong> (pregnancy, carrying, incubation). This stage can be varied depending upon the duration and the psychological process. It is connected with the intense activity of the consciousness.</td>
<td><strong>Purposeful development of art perception</strong> – development and implementation of the idea (the choice of artistic means). Processes – direct perception exercises, expressive, analogue and intuitive techniques, metamorphosis techniques (alteration, modification, new application), fitting in (artistic abilities and skills).</td>
</tr>
<tr>
<td><strong>Implementation of the idea</strong> is a responsible phase which shows how a person's thoughts and observations as subjective phenomena are transformed into the ones which can be objectively perceived. There is a possibility that the idea may be changed during the work period. Implementing the idea the consciousness is activated, subconsciousness is actualized, overconsciousness switches on, thinking and imagination operates precisely, realization which is most appropriate for the idea occurs. At this stage regular work, perseverance and volitional exertion is indispensable.</td>
<td><strong>Aesthetic experience as a value</strong> – sustained motivation for the implementation of the idea, exertion of perseverance and volition. The process of the transformations of individual subjective phenomena (thoughts, applications for ideas and observations) into the ones which can be objectively perceived evolves. The attitude towards the acquisition of art in the studies emerge. Introspection and development of an individual. Experience of the creative process and art (pleasure of action, interplay between the conscious and the unconscious).</td>
</tr>
<tr>
<td><strong>Verification of the idea</strong> – improvement of the completed work, correction, comparison of the result with the goal set at the beginning.</td>
<td><strong>Self-expression in the creative process</strong> – Evaluation of the personal contribution (personality) and the benefit (product), the quality of the creative activity (process). Motivation for creation, new challenges, personal sense of acquisition of visual art. Experience of free, personally significant activity. Creative experience.</td>
</tr>
</tbody>
</table>

Table 3: Coherence of the stages of art acquisition and the stages of the creative process.
The designed model The model of the development of the creative potential of prospective teachers in art studies has three dimensions where the outer dimension includes the pedagogical process in art studies – the entity of objective pedagogical components (holistic contents of art; pedagogical activity promoting the creative potential); the middle dimension – development of the creative potential of the prospective teacher. The inner dimension – the stage of the realization of the activity – learning, the student’s self-expression as a personally significant activity in art studies:

- release and development of emotions;
- purposeful development of perception;
- aesthetic experience as a value;
- self-expression in the creative process.

Figure 2: The model of the development of the creative potential of prospective teachers in art studies.
Release and development of emotions. From the point of view of promoting creativity the major idea within the conceptual framework of humanistic psychology is that a human can implement his/her self-realization only when he/she has a positive attitude towards him/herself, without which self-development, self-realization, individualization and self-revelation is improbable (Jungs, 2009). Self-acceptance is hindered by inferiority complex which is based on flawed self-assessment (Ахед, 1995), but in productive creation a person's attitude towards him/herself and the surrounding world and life in general is changing (Eriksons, 1998). In pedagogy self-esteem is defined as an individual's attitude towards him/herself which causes or does not cause confidence in his/her own abilities (Śpona, 2004). According to the conception of humanistic psychology people create their own subjective view of themselves, and as a result of their prejudices their individual self-development is hindered (Jungs, 2009; Маслой, 1982). Consequently, pedagogical coherence emerges that a purposefully organized educational process loosens students up for emotional experience, which contributes to changing their attitude towards themselves leading to confidence in their abilities. Creatively inclined people will have faith in their own abilities and courage to rely on themselves (Fromm, 1999), they are free from stereotypes.

The principle of a game in creating pedagogical environment loosens a person up emotionally and creates an opportunity for the student to disclose the spontaneous expression of his/her true self. According to Gadamers art is like a game where it reaches its inherent purpose only if the player loosens up and engages in it within the rules (Gadamers, 2002). This approach requires the student's readiness to take risks, engaging in unusual, unpredictable and initially seemingly useless pursuits. According to Csikszentmihalyi (Csikszentmihalyi, 1999), flow is a special mental state of psyche during the process of creative inspiration and creation. Its essence is to feel at ease, experience determination, focused attention, delight of action and the process, reconciliation between the proposed challenges and abilities. The principle of an individual self-impetuosity is emphasized as a basis for the preparation phase of the creative process: therein lies the formation of motivation to be open and tolerant of the new and enrich self-experience; people realize themselves in diverse activities (Вygотский, 1991). It states that an individual's self-impetuosity in the acquisition of art in the study process is feasible if students are encouraged for individual expression and expressive artistic disclosure.

The targeted development of artistic perception. In art, unlike other areas of human activity where correct answers are important, the student learns to form judgements about qualitative relationships (life and art) where value judgement is more important than laws (Eisner, 2006). The nature of aesthetic judgement, which is focused on direct experience of art and the revelation of its meaning, is targeted at promoting the development of perception. Aesthetic cognition theory represents the view acknowledging that cognition is impossible without sensual, imaginative perception and intuitive revelation. Effective thinking in the concepts of relationships, attributes and space is as serious as to think in symbols, verbally and mathematically (Eisner, 2006). Cognitive value of art manifests itself in the ability to see the world in all its richness and specificity, to give as lively and colourful picture of reality as possible, revealing the infinite variety of the manifestation of life phenomena (Karap, 1997). In artistic cognition W. Welsch pinpoints the importance of sensual perception that displays itself in sensitivity to the different, which is a prerequisite for tolerance in art and design, daily life and social sphere (Velšs, 2006). In artistic cognition the author's intuition and subjective view is crucial (Столович, 1999; Velšs, 2006). Thus, artistic cognitive criteria are subjective approach, intuition, evaluating attitude and representation of the world's diversity. These findings confirm the importance of artistic cognition in the development of the student - trainee teacher's creative potential, because it gives them the opportunity to explore and experience the diversity of the surrounding world of objects.
phenomena and their relationships, acknowledge the value of their world outlook and experiences, be tolerant and sensitive to the perception of qualities of an object, human or situation of a different kind. Thus, the targeted inclusion of the acquisition of the language of art into the content of art studies, fostering the understanding of its meaning and expression, promotes the student's artistic perception. This task is made more difficult by the student's previously gained stereotyped notions of artistic training, individual abilities, haste, focus on results, priorities of economic values.

**Aesthetic experience as a value.** A theoretical study of the creative process shows that it is linked to *specific experiences* related both to the involvement in the *flow*, which is understood as a delightful sense of action when one's attention is fully focused on the activities that makes one forget about one's *self* (Csikszentmihalyi, 1999), as well as delight and surprise which is caused by revelation (Fromm, 1999; Хехчаузэй, 2003). In creative activity of visual art the student has the opportunity to experience him/herself as an *autonomous personality* arriving at free, independent decisions and making independent choices, so as to strengthen confidence in their abilities, self-confidence, self-sufficiency, perseverance and concentration of energy; the opportunity of strong personal commitment, freedom from psychological blocking (Maslow, 2003; Torrance, 1993). Despite the fact that art as an act is caused by imagination, it is able to create a real experience providing one the opportunity to participate in diverse forms of lifetime activity, practically not being involved in them, but gaining experience that cannot be acquired in any other form of human activity; through this experience it is possible to discover the diversity and gamut of human emotions (Вьютгтскйй, 1991, Eisner, 2006).

Experience is a self-experienced act and is associated with life in its entity (Gadamers, 2002). In the process of creation or perception of a work of art aesthetic experience provides a direct creative experience to the subject. Each subject involved in the artistic experience experiences values and makes decisions him/herself (Velšs, 2006, Стоалович, 1999). One might conclude that the experience that a person gains in art studies is a valuable creative experience, which is indispensable as a precondition for the development of the creative potential. In the artistic experience emotional life becomes powerful, which is the force that changes a human, due to real artistic experience a person is becoming better, more humane (Вьютгтскйй, 2000). Aesthetic experience can be described as the deep aesthetics, wherein the individual internal psychological and mental processes of change occur. It can be inferred from the above that the emotions caused by creative artistic activity encourages the individual in their extrinsic activity; in the artistic experience an individual is outwardly passive, but his/her inner world is changing.

The above analysis points to a pedagogical causality that the *specific experiences* related to the creative process like involvement in the *flow* (Csiksentmihalyi, 1999), as well as delight and surprise caused by revelation (Fromm, 1999; Хехчаузэй, 2003) provide an opportunity to strengthen confidence in one's abilities forming healthy self-esteem, to implement a strong personal involvement in creative artistic activity, thus, promoting the development of the creative potential.

**Self-expression in the process of creation.** In the context of the humanistic concept it is emphasized that the aim of the development of a personality is to maintain the desire to grow and self-actualize, the realization of the creative potential, self-expression (Masлоу, 1999); self-actualization is the connection of the meaning, purpose and motives (Леонтьеv, 1975). According to Maslow's hierarchy of needs in the developmental process of the creativity of a personality the concept of self-realization/self-actualization holds the top position with an emphasis on the correlation between the realization of the creative potential of an individual and the meaning of his/her life: the more people will develop their creative potential, the more meaningful will be their life (Masлоу, 1999). According
to Jung self-knowledge, self-integration and gradual self-discovery encourage self-realization; to understand one's self and the world around them, discover one's place in the dynamic world, strengthen one's identity by means of self-realization (Jungs, 2009). At the same time when encouraging creative self-expression within the conception of creativity the components limiting the self-actualization process are emphasized: the negative effects of one's past experience, social influence, psychological group pressure which often work against individual tastes and judgements. This psychological insight is valuable for the pedagogical process whereby the student's creative process is promoted, pedagogical interaction encouraging creative process is chosen, art techniques encouraging creativity (expression, game, fitting in, yielding oneself to the process) are selected.

Unlike other areas of human activity, creation is associated with creative artistic activity – a process, wherein the qualitatively new material and spiritual values (new ideal constructs - objects, processes, systems that have previously not existed either in nature or social life) are created and art – specific creative modelling and transformation of the reality into individual creation aimed at the spiritual and practical transformation of the world in accordance with the tradition (Jung, 1981).

In art studies when offering technological and functional diversity of the study process, ample opportunity for the student individual self-expression is provided, since the methodological development of professional knowledge and skills (acquisition of the language of art, technologies, techniques, contexts) is indispensable for the student's sense of competence, lack of which causes a psychological barrier and the student refuses to participate in an activity (Csikszentmihalyi, 1999). A purposefully organized study process focuses on student involvement in a holistic artistic activity and a positive experience of the creative process. Thus, it contributes to an individual's ability to be creative in its diversity experiencing different stages of the creative experience, sequentially participating in them by using a variety of personal resources.

One of the attributes characterizing a creative personality is the release of internal qualities or spontaneity, because everything we do best is done unconsciously and easily (Jungs, 2009; Csikszentmihalyi, 1999); emotional release is essential in the creative process resulting in an individual becoming open and motivated for a new experience; emotional release points to individual internal freedom without tension and stereotypes, as also evidenced by the belief that motivation is being created during the creative process.

Internal release in art can be reached through individual expression. The concept of expression can be explained as expressiveness, the power of artistic manifestation of feelings and emotions. Individual expression in art relates to the humanistic concept which includes the idea of the primary psychic processes of creativity, primary, secondary and integrated creativity, introvert and extrovert disposition in creativity. In psychology of artistic creation one can distinguish between two patterns of creation of a piece of art: introvert disposition where it is clear for the artist which laws to apply in the artistic process and what the result (the product) will be; extrovert disposition where works of art come into being outside the act of an artist's will (Jungs, 2009).

This relates to Maslow's three categories characterizing creativity - primary, secondary and integrated creativity (Maslow, 1999), wherein the primary sources of creativity and the very process of idea generation are rooted in the deepest layers of human psyche; secondary creativity promotes the productive usage of critical and analytical abilities of an individual; integrated creativity means merging both primary and secondary ones, and this is exactly the way that the genuine creativity emerges. According to Jung creation is the art of vision which is intuitively comprehensible to all people, because what the artist has disclosed, lies in the unconscious mind of each person (Jungs, 2009).
For a creatively inclined individual exactly the primary processes of creativity are more important than the result, because it enhances the feeling of one's self, balances self-perception and promotes creativity; secondary creativity provides an analysis and sustained motivation in the creative process (Maslow, 2003). Fusion of motivation, knowledge and creative abilities – integrative creativity comprises the cognitive style of a personality which is unique and original; knowledge about idea generation, which includes not only intuition, but also deliberate skill to use specific techniques in idea generation; high energy levels, ability to focus energy in the required direction, invest concentrated effort (Maslow, 2003; Csikszentmihalyi, 1999).

In the pedagogical collaboration the lecturer encourages the student to evaluate his/her personal contribution (personality), benefits (product) and the quality of the creative activity (process) motivating the students for creation, new challenges, revealing the personal sense of the acquisition of visual arts and self-realization options. In the process of creation the student receives an experience of free, personally significant activity and enhanced creative experience.

CONCLUSIONS

The creative potential of the prospective teacher is defined as an integrity of value, cognitive and behavioural components. Each component entails various elements of the development of the potential - awareness and acceptance of the nature of creativity itself; focusing on creativity in an activity; development of creative artistic abilities etc.

The above components form the basis for the development of the model of the development of the creative potential of prospective teachers that includes three dimensions: 1) pedagogical artistic process, 2) development of the creative potential of the prospective teacher, 3) creative self-expression in the art studies.

It is essential that the criteria for the development of the creative potential be applied in the pedagogical process - interest in a new experience, independence; originality, openness to a new experience, flexibility of thoughts and ideas, self-esteem and self-actualization.
Creative self-expression manifests itself in a particular activity. Thereby creativity displays itself on the basis of the development of skills in the selected art realm (music, movement and dance, visual art).

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BUSINESS INNOVATION
AS A TOOL FOR ECONOMIC GROWTH - THE EXAMPLE OF POLAND

Olga Dębicka, Aneta Oniszczuk-Jastrzębę

Department of Economics, University of Gdańsk
Armii Krajowej 119/121, Sopot, Poland

Abstract

In today's world, with is a strong battle for the customer, the term of innovation refers to any company and applies to all spheres of life and human activities which require inventiveness, initiative, ingenuity and creativity. Among the factors contributing to the growth of innovation in enterprises, a state should play a special role, setting long-term directions of development policy. Among the basic conditions creating opportunities for growth of innovation, we can include removal of obstacles limiting the demand for goods and services, liberalization of the fiscal burden, facilitated access to financial sources, building new business structures in trade, support to the entrepreneurs seeking their place on the market by knowledge of business management, improvement of managers and staff's skills. It should be also remembered that innovation of economy is determined by the innovation policy of companies, as they introduce innovations in life thus they shoulder the main burden of business innovation

Key words: innovations, economic growth, state policy

1. INTRODUCTION

Innovativeness is one of the factors contributing to the economic prosperity of countries. Companies carrying out innovation activities are much more profitable than those that do not invest in innovation. It should be emphasized that the growth of corporate profits is reflected in increasing expenditures on innovative activities, which can contributed to the reduction of unemployment, new jobs creation, development of new types of services in the sphere of production and consumption - and thus contributing to the improved quality of life. At the same time, the more innovative economy, the smaller outflow of highly qualified staff. Thereby, the transformation towards production of new goods and services in economy occurs due to the entrepreneurs, without whom there would be no innovation or creative imitation. According to J. Schumpeter's (1960), creative behavior in the economic sphere consists in discovering new forms of activities that can meet the needs better than before, but until the new possibilities occurred. Thus an entrepreneur - innovator acts as the causative agent of economic progress, as he can be treated as driving force behind the implementation of new ideas, i.e. introduction of new products, new production methods, development of new markets, creation of new supply sources and reorganization of industrial structures. By implementing the innovations, the entrepreneur causes permanent disturbance of market equilibrium that permanently changes and shifts the equilibrium state previously existing in the economic system (Schumpeter 1960).
2. SELECTED INDICATORS OF MACROECONOMIC SITUATION IN POLAND

The impact of global financial crisis on Polish economy affected macroeconomic conditions adversely. However, starting from the year 2010, we can already noticed a period of gradual recovery in Polish economy (Ministerstwo Gospodarki 2011). After a slowdown observed in 2009, a 3.8% growth of GDP (table 1) proved to be one of the highest in the European Union (Eurostat 2011). Accelerated ratio of economic growth to 4.3% in 2011 resulted mainly from the increase in both consumption and investment, which gave Polish economy solid foundations for further development. Relatively high economic growth would not be possible without the efforts of entrepreneurs who - despite continuing economic uncertainty- were able to increase their sales.

![Table 1. Rate of economic growth in Poland (in the years 2003-2011)](source: Compiled from http://epp.eurostat.ec.europa.eu)

<table>
<thead>
<tr>
<th>Year</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP in %</td>
<td>3.9</td>
<td>5.3</td>
<td>3.6</td>
<td>6.2</td>
<td>6.8</td>
<td>5.1</td>
<td>1.6</td>
<td>3.9</td>
<td>4.3</td>
</tr>
</tbody>
</table>

Investment processes in enterprises – strongly influencing the economic growth, and above all affecting future development of companies and their competitive position - depend heavily on the business environment. Gross expenditure on fixed assets in 2010 decreased by 1.0%. The overall result in that year was very negatively influenced by a significant investment decline (11.4%) in the first quarter of 2010. The situation was better in the second half of the year, and a return to a slow growth was observed (1.6% in the fourth quarter of 2010). A continued slowdown of investment in next year resulted mostly from demand uncertainty. The downward trend was not overcome even by good results achieved in companies. However, a rapid growth was observed in public investment, particularly infrastructural one, what was related to the organization of EURO 2012. Ratio of gross expenditure on fixed assets to GDP declined to 19.7% in 2010, and was significantly lower than the highest one recorded in 2008. Savings rate reached 17%. A major source of savings was foreign direct investment and EU transfers.

The inflow of foreign capital through increased investment is very conducive to growth of Polish economy. It is also one of the main channels for the inflow of new technologies. Growing investment expenditures absorb labour capital – hence resulting in growth of employment rate and, consequently, increasing the potential of economy. According to preliminary estimates, Polish FDI inflow in 2010 amounted about EUR 6.7 billion and, therefore, was the lowest since 2004, and its share in GDP reached a level lower than before Poland’s accession to the EU - 5.1% of GDP in 2004 and 1.9% of GDP in 2010 (Ministerstwo Gospodarki 2011).

Favourable external conditions stimulate even the weaker companies to increase investment spending, also that one which support innovative activities undertaken for generating higher returns. The boom

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2 For comparison, GDP of individual countries of the European Union in 2011 [in%]: Sweden (3.9), Finland (2.9), Denmark (1.0), Austria (3.1), Denmark (1.0), France (1.7), Belgium (1.9), Netherlands (1.2), Slovenia (-0.2), Czech Republic (1.7), Luxembourg (1.6), Ireland (0.7), Spain (0.7), Estonia (7.6), Hungary (1.7), Latvia (5.5), Lithuania (5.9), Greece (-6.9), Malta (2.1), Slovakia (3.3), Bulgaria (1.7), Romania (2.5), Cyprus (0.5), Italy (0.4), Portugal (-1.6), United Kingdom (0.7).
causes an increase in demand, thus an increase in production is necessary to meet that demand and to ensure a market balance. Therefore, the macroeconomic situation of the country is a prerequisite for drawing some conclusions about the results and operating conditions of a single company. Improved economic conditions in 2010 did not affect significantly Polish labour market. The unemployment rate rose from 8.2% to 9.6%, and the employment rate remained at the level quoted a year and two years earlier (50.4%). After a decline recorded in 2009, an average employment in enterprise sector increased by 0.8% in 2010 and amounted about 5.4 million people. In 2010, the negative trends in the state's public finances have been upheld. The perspective of economic recovery in the country and abroad have failed to translate into a positive conditions of state finances by increasing revenues and reducing public expenditure. As a result of a negative balance in all sub-sectors of government's and local institutions, the deficit in 2010 reached the highest historical level of PLN 111.2 billion. The growing deficit in the sector of government and local institutions contributed to the increase of total debt. In 2010, a public debt calculated according to Maastricht methodology reached 54.9% in relation to GDP.

The situation of economy at macro level is a primary factor influencing the financial situation of enterprises. In 2010, the revenues of enterprises employing more than 9 persons increased by 5.6%, while expenses grew slower than revenue. As a result, gross profit earned increased from 116 to 131 billion PLN. The year 2010 was another year of drop in investment in that group of companies, what should be associated with the negative impact of the global economic crisis. These expenditures decreased from 118.7 to 113.9 billion PLN – about 4% decline (Ministerstwo Gospodarki 2011).

Support for the innovative capacity of companies contributes to the increase of their competitiveness and ultimately to social development and economic growth. Innovations lead to changes that have an impact on economic growth (Cho & Pucik 2005). The effect of innovation on economic growth is evident in the relationship of expenditure on R&D to the level of economic development measured by the GDP. In the developed countries, the expenditures on research and development are growing at higher rate than the economic growth. The increase in investment in this sphere, as W. Janasz (2004) writes, ‘(...) occurs most frequently in the transitional period of growth’s slowdown. It’s assumed that the research could help to spur the economy. Countries at a lower level of development treat the science equally with other spheres financed from the budget, or - as in the previous case - these expenditures can become the "locomotive" of development’. The indicator characterizing the scale of R&D spending is the relation between expenditures on R&D activities and the volumes of gross domestic product (GDP). The calculation prepared by the National Statistical Office in Poland (GUS) reveal a decrease in the investments and number of employees in R&D sphere. The ratio of expenditures on R&D to GDP (the GERD/GDP) amounted 0.56% in 2006 - and was one of the lowest in the European Union . Year by year, the ratio of expenditure on R&D to GDP gradually increased. In 2007 it reached 0.57%, 0.6% in 2008, 0.68% in 2009 and 0.74%, in 2010 (Eurostat 2011). Considering these indicator, position of Poland in 2006 was bad, not only against the more developed EU countries, but also when compared with those countries with whom Poland entered the EU - and it was a disturbing phenomenon. And although that rate in Poland is growing, but still it is almost three times lower than for the whole Union. Similarly as in Poland, this rate in 2010 did not exceed 1% in Latvia, Lithuania, Malta, Slovakia, Bulgaria, Romania, Cyprus. Only Finland and Sweden reached a 3% ratio specified for that index.

Knowledge and ability to generate innovation are now the main factor determining competitiveness of the economy. It is generally accepted that economic growth in developed economies is based largely on national activities to increase productivity through innovation.
Having in mind the level of development and structure of Polish economy, the right strategy to increase innovation in Poland should embrace a simultaneous execution of four development paths. These include the use of new technologies to increase the competitiveness of traditional industries and creating new businesses based on innovative solutions, as well as the development of small and medium enterprises through the use of modern technologies and methods of knowledge management. The third and fourth paths consist in stimulating the development of cooperation between enterprises, and the enterprises and business institutions in the field of innovation, and encouraging large companies to conduct research and implement its results (Ministerstwo Gospodarki 2006).

2. REGULATION AND INSTITUTIONS SUPPORTING INNOVATION OF POLISH ENTERPRISES

In order to improve a business environment for economic activities in Poland, including innovation activities, a consistent law reform is forced, especially within the so-called Package for Entrepreneurship. In the ranking of the European Union innovation - Innovation Scoreboard (IUS 2010), Poland was qualified to the group of moderate innovators. The results of research indicate that the SII index (Summary Innovation Index) in Poland is almost half less than the average one for EU-27. Despite many positive changes, the institutional environment is still not fully conducive to the development of enterprises. Among the main barriers to business, there are too complex laws and frequent changes in regulations, complicated tax laws, the length of court proceedings in commercial cases and rigid labour laws.

Development trends in the developed countries reveal that only a competitive advantage based on knowledge and innovation can ensure sustainable development in the short and medium term. Therefore, Poland should focus on building the knowledge based economy and seek new sources of competitive advantage, such as innovation, including research and development, knowledge and education.

Innovations can be a primary source of building specific and unique skills of the company, and their scale depends largely on the amount of resources spent on R&D activities both by the state and company itself. Therefore, the most important conditions that determine the efficiency and effectiveness of innovation processes include (Barańska-Fischer 2005):

- pro-innovative model of economy in which innovation are considered as an important element of development - manifesting itself e.g. in development of innovation that satisfy socio-economic needs,
- stimulating the demand for innovation,
- close links between the different phases of development process, such as basic research, application, development, implementation, dissemination,
- securing the appropriate funds necessary to implement innovation,
- selection and prioritization of tasks in research and development, and focusing energies and resources on selected innovative projects,
- the expected benefits and risks assuming the fact that the benefit may be different than expected,
- a proper assessment of undertaken investment projects, including their novelty and originality,
costs of the project, opportunities to gain capital and effective demand,

• acquaintance of the target market, its proper selection and the ability to determine the degree of its attractiveness,

• attractiveness of the product and a good marketing strategy.

In recent years, a number of reforms to improve the framework conditions for business were introduced. The changes were made primarily within ‘The package for entrepreneurship’. The first acts came into force in 2008. The works on changes in subsequent laws are underway. Until now, the following - relevant to the business – changes were introduced (Ministerstwo Gospodarki 2011):

• the possibility to suspend business,

• facilitation of setting up business by introducing the so-called ‘one stop’,

• simplifying and reducing control in companies,

• reducing the level of mandatory capital of the company with limited liability and joint stock companies,

• simplifying the formula for public-private partnership,

• the simplification of the tax on goods and services,

• empowering entrepreneurs against administration by the order of accepting by officials the incomplete applications and non-claim documents not required by law,

• the introduction of the presumption of honesty of the taxpayer,

• extending provisions on binding interpretation of the law.

These reforms should on one hand allow for rapid and flexible responses to emerging problems, and on the other hand, create conditions for sustainable development, taking into account the challenges of economic globalization, demographic change and necessary adaptation to climate change or its mitigation.

The most important tasks of government in the reform of public support for R&D and innovation are mainly: increasing public investment in scientific and development research, as well as increasing the non-budget funds in financing of science. To accomplish these tasks, the National Centre for Research and Development was established, which act as an coordinating and managing centre for strategic research and development programmes. In addition, on July 1st, 2007, came into the force the Act of October 8th 2004 on the principles of financing the science, simplifying the application procedures for public funds for R&D. This will allow for efficient and more effective spending of public funds (Ministerstwo Gospodarki 2007).

An important source of diversity in innovation in the industrialized countries, is a role of companies, universities, government and other research institutions in the process of developing the knowledge base, its dissemination and utilization. These entities are influenced by different factors specific for particular country, e.g. the structure of industry, education and training, human resources and labour market or financial system, etc. (European Commission Directorate-General for Research 2007). The economic results depend on macroeconomic policies and structural conditions, and thus vary greatly in different regions and countries. The stability of macroeconomic policy (e.g. inflation, fiscal policy), trade policy, financial and market conditions, labour market institutions significantly affect the

A dialogue on the shape of the innovation policy of the country should take place between the government authorities on one hand and business, trade unions and scientific/research institutions on the other. This is an essential condition, as Lundvall and Borras (2005) wrote, for the development of socially relevant and clear programs that can be implemented successfully.

The environment for innovation and entrepreneurship in Poland has improved as compared to 1990, but there are still significant barriers to business creation and the entrepreneurship, companies’ investment in research and development and use of intellectual property rights in public and private sectors, as well as barriers in financing innovative entities. Quality of education and human capital are important, especially when considering a need to improve work efficiency for increasing the competitiveness of an industry. The current situation of Polish economy and integration with the EU, provide an opportunity for Poland to change, or rather to integrate, a set of actions for innovation by strengthening research, and the European Regional Development Fund (ERDF) is an opportunity to increase the share of innovation and entrepreneurship in regional economic development (OECD 2007).

A significant role in supporting innovative activity is given to Polish Industrial Development Agency (IDA), which supports development of industrial and technological parks and technological incubators (Agencja Restrukturyzacji Przemysłu 2008). Its statutory objective consists in assisting the process of transformation of Polish enterprises into the effective units, capable of operation in a market economy. The main fields of the ARP activities embrace assistance in financial restructuring and organizational consulting for the enterprises, acting as an active investor and the management of special economic zones (Pysiak 2006).

3. INNOVATIVE ACTIVITY OF POLISH ENTERPRISES

The results of innovation activities presented by GUS, revealed that in the years 2007-2009, 18.1% of industrial enterprises and 14.0% of enterprises in the services sector were considered as innovative, as they introduced new or significantly improved products and/or processes (table 2). The most innovative were enterprises from the service sector in the provinces: Opole, Mazovia, Wielkopolska, Silesia, West Pomerania, where the level of innovation exceed the general value of this index in Poland. The lowest innovation index was recorded in the service sector in the regions: Świętokrzyskie, Lubuskie and Łódź. The most innovative industrial enterprises were located in the provinces: Podkarpackie, Silesia and Lower Silesia and the lowest degree of innovation was recorded in Wielkopolska, Łódź and Lubuskie provinces. The enterprises from service sector in Poland have introduced mainly innovation processes - 10.7% of all enterprises as compared with 8.0% of enterprises introducing innovation products. Similarly, the process innovations were also dominant in the group of industrial companies.
TABLE 2. Innovative enterprises in the industry and services sectors by type of innovations and provinces in the years 2007-2009 [% of companies]

<table>
<thead>
<tr>
<th>Province</th>
<th>Industry companies introducing innovation</th>
<th>Services companies introducing innovations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>total</td>
<td>Products&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Total Poland</td>
<td>18,1</td>
<td>12,7</td>
</tr>
<tr>
<td>Dolnośląskie</td>
<td>20,9</td>
<td>14,9</td>
</tr>
<tr>
<td>Kujawsko-pomorskie</td>
<td>17,5</td>
<td>12,9</td>
</tr>
<tr>
<td>Łódzkie</td>
<td>18,1</td>
<td>13,6</td>
</tr>
<tr>
<td>Lubuskie</td>
<td>15,8</td>
<td>12,7</td>
</tr>
<tr>
<td>Łódzkie</td>
<td>14,1</td>
<td>9,8</td>
</tr>
<tr>
<td>Małopolskie</td>
<td>19,3</td>
<td>12,3</td>
</tr>
<tr>
<td>Mazovia</td>
<td>16,2</td>
<td>11,3</td>
</tr>
<tr>
<td>Opolskie</td>
<td>17,6</td>
<td>14,1</td>
</tr>
<tr>
<td>Podkarpackie</td>
<td>23,3</td>
<td>17,9</td>
</tr>
<tr>
<td>Podlaskie</td>
<td>19,0</td>
<td>13,3</td>
</tr>
<tr>
<td>Pomorania</td>
<td>19,9</td>
<td>13,1</td>
</tr>
<tr>
<td>Silesia</td>
<td>20,9</td>
<td>14,5</td>
</tr>
<tr>
<td>Świętokrzyskie</td>
<td>16,5</td>
<td>12,0</td>
</tr>
<tr>
<td>Warmińsko-mazurskie</td>
<td>17,8</td>
<td>12,6</td>
</tr>
<tr>
<td>Wielkopolskie</td>
<td>16,1</td>
<td>11,4</td>
</tr>
<tr>
<td>West-pomerania</td>
<td>16,7</td>
<td>8,9</td>
</tr>
</tbody>
</table>

Expenditures on product and process innovation in 2009 amounted to 22.7 billion PLN in the industry sector, while in the service sector they reached 8.3 billion PLN. This means a decrease in expenditures as compared to 2008, respectively by 11% and 34%. The overwhelming majority of outlays was sustained by private sector entities (70% of expenditures in the industrial sector and 90% in the service sector). This decrease is most likely related to the financial situation of enterprises in 2009, when Polish economy has been strongly exposed to the negative impact of financial crisis (Ministerstwo Gospodarki 2011). In 2009, expenditure on innovation activities in industrial enterprises of over 49 employees totalled 21.4 billion PLN, while in enterprises from the services sector these spending reached 7.6 billion PLN (table 3).
### Table 3. Expenditures on innovation activities in enterprises by type of innovation and enterprise size in 2009 (current prices)

<table>
<thead>
<tr>
<th>Specification</th>
<th>Total</th>
<th>R&amp;D activity</th>
<th>Acquisition of knowledge from external sources</th>
<th>Acquisition of software</th>
<th>Expenditures on:</th>
<th>in that - imported</th>
<th>Trainings of employees connected with innovation activities</th>
<th>Marketing connected with new and significantly improved products</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Industrial enterprises</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>22652,1</td>
<td>2237,2</td>
<td>285,9</td>
<td>371,9</td>
<td>4849,5</td>
<td>14133,8</td>
<td>7270,4</td>
<td>51,3</td>
</tr>
<tr>
<td>Public sector</td>
<td>6648,7</td>
<td>371,7</td>
<td>12,7</td>
<td>84,9</td>
<td>1618,0</td>
<td>4507,5</td>
<td>2169,5</td>
<td>4,1</td>
</tr>
<tr>
<td>Private sector</td>
<td>16003,4</td>
<td>1865,5</td>
<td>273,1</td>
<td>286,9</td>
<td>3231,5</td>
<td>9626,3</td>
<td>5100,9</td>
<td>47,2</td>
</tr>
<tr>
<td><strong>Number of employees:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-49</td>
<td>1246,6</td>
<td>64,1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 - 249</td>
<td>3914,9</td>
<td>370,8</td>
<td>18,0</td>
<td>15,3</td>
<td>191,0</td>
<td>820,7</td>
<td>253,0</td>
<td>6,7</td>
</tr>
<tr>
<td>250 - 499</td>
<td>2840,9</td>
<td>309,2</td>
<td>75,4</td>
<td>74,0</td>
<td>901,1</td>
<td>2309,7</td>
<td>939,9</td>
<td>20,1</td>
</tr>
<tr>
<td>more than 499</td>
<td>14649,6</td>
<td>1493,2</td>
<td>15,7</td>
<td>80,6</td>
<td>633,5</td>
<td>1655,9</td>
<td>591,5</td>
<td>8,7</td>
</tr>
<tr>
<td><strong>Service enterprises</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>8260,1</td>
<td>754,7</td>
<td>612,2</td>
<td>1236,9</td>
<td>1182,4</td>
<td>3620,7</td>
<td>207,3</td>
<td>65,5</td>
</tr>
<tr>
<td>Public sector</td>
<td>867,0</td>
<td>60,5</td>
<td>16,1</td>
<td>96,0</td>
<td>223,0</td>
<td>451,4</td>
<td>31,7</td>
<td>4,1</td>
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<tr>
<td>Private sector</td>
<td>7393,0</td>
<td>694,2</td>
<td>596,1</td>
<td>1140,8</td>
<td>959,4</td>
<td>3169,2</td>
<td>175,6</td>
<td>61,3</td>
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<td><strong>Number of employees:</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-49</td>
<td>1248,6</td>
<td>64,1</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>50 - 249</td>
<td>3914,9</td>
<td>370,8</td>
<td>18,0</td>
<td>15,3</td>
<td>191,0</td>
<td>820,7</td>
<td>253,0</td>
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<tr>
<td>250 - 499</td>
<td>2840,9</td>
<td>309,2</td>
<td>75,4</td>
<td>74,0</td>
<td>901,1</td>
<td>2309,7</td>
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<td>20,1</td>
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<tr>
<td>more than 499</td>
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<td>1493,2</td>
<td>15,7</td>
<td>80,6</td>
<td>633,5</td>
<td>1655,9</td>
<td>591,5</td>
<td>8,7</td>
</tr>
</tbody>
</table>

\[\text{Source: } \textit{Działalność innowacyjna przedsiębiorstw w latach 2006-2009. Informacje i opracowania statystyczne, GUS, Warszawa 2010, s. 479-480.}\]
Investment in innovation activities in the group of companies employing from 50 to 249 employees (medium company) was higher by about 38% for industrial companies and about 220% for service companies than in the enterprises employing from 250 to 499 employees (large enterprises). The largest expenditure on innovation activities was observed in the companies numbering more than 499 employees, whose share in the total expenditures in 2009 amounted about 54% in industrial companies sector and nearly 27% in service companies sector. The aforementioned data indicate that the level of innovation in enterprises was positively correlated with their size. A particularly low level of innovation is only observed in small companies, employing from 10 to 49 employees.

<table>
<thead>
<tr>
<th>Specification</th>
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<tr>
<td></td>
<td>companies belonging to the same group</td>
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<td>industrial enterprises</td>
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<td>Poland</td>
<td>446</td>
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<td>EU* and EFTA **</td>
<td>414</td>
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<td>EU-CC ***</td>
<td>54</td>
</tr>
<tr>
<td>China or Indie</td>
<td>36</td>
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<tr>
<td>others</td>
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<tr>
<td>service enterprises</td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td>233</td>
</tr>
<tr>
<td>EU* and EFTA **</td>
<td>166</td>
</tr>
<tr>
<td>EU-CC ***</td>
<td>13</td>
</tr>
<tr>
<td>USA</td>
<td>7</td>
</tr>
<tr>
<td>China or Indie</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 4. Industrial and service companies, which had an agreement (contract) on cooperation in the field of innovative activity by type of partner institutions and countries of their location [number of enterprises] - in 2007-2009

* data concern companies employing more than 49 people. ** EU countries: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Greece, Spain, Ireland, Lithuania, Luxembourg, Latvia, Malta, the Netherlands, Germany, Portugal, Slovakia, Slovenia, Sweden, Hungary, United Kingdom, Italy. *** European Free Trade Association (EFTA).
Trade Association (EFTA): Iceland, Liechtenstein, Norway and Switzerland. d Candidates for EU membership: Bulgaria, Croatia, Romania and Turkey.


Data presented in table 4 reveals that networking and education, along with growing importance of innovation in government policy begin to pay off. Moreover, the companies started to understand that cooperation is essential for the innovation processes, what is proved by a large number of contracts between businesses. The largest number of contracts was concluded with suppliers of equipment, materials, components and software and with clients. This may occur due to the fact that increasing technological advancement of the suppliers forced a necessary adaptation in their business-customers. The third contract partner, in turn, are the other companies of the group, and the competitors take the fourth position on the importance. Agreements with companies are much more popular than the agreements with the advisory companies (represented by private consulting firms) or public research and development institutions and universities. The least frequent are the cooperation agreements with Polish Academy of Science and foreign R&D units – the number of such agreements does not exceed a few %. Quite important for Polish companies are also the formal relations with other companies within the same group.

At present, a tendency to co-operation between R&D sphere and enterprises in Poland is low. This situation results mostly from the profile of research units, which may mean that a small proportion of the total scientific output of all the research units is useful for business practice. On the other hand, the companies may not be willing to work with R&D units, which is often associated with a lack of information about such possibilities.

Generally, a low level of innovativeness in Polish enterprises results from their bad financial situation, and little interest in conducting research and development activities which are characterized by a high risk of failure. The main factors hindering the implementation of innovative projects are economic reasons (too high innovation costs and lack of funds), internal factors (lack of flexibility in organizational structures, lack of qualified personnel, lack of market information and technology) as well as regulations, standards and customers’ unresponsiveness on new products. Designing, development and implementation of innovations is a complex, costly and time-consuming process, and the effects have to be socially accepted and should generate substantial benefits. Therefore, innovation requires cooperation in various areas of the enterprise, as well as cooperation with customers, suppliers, other businesses and individuals.

4. CONCLUSIONS

In conclusion, it should be stated that the innovation activities of enterprises are particularly vulnerable to adverse changes in economic conditions since the company having financial difficulties in the first place limits spending on innovation. It should also be noted that during the recession the banks, the market and investors are sceptical about the risks accompanying pro-innovation activities. That factors limit an access to external sources of financing the innovative activities. Thus it makes short-term innovations more popular, e.g. non-technological innovation and processes.
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CROSS-CURRICULAR CONNECTION BASED ON THE USAGE OF A PUPPET

Danijela Horvat Samardžija
University of Primorska, Faculty of Education
Cankarjeva 5, 6000 Koper, Slovenia

Abstract

Learning is a process which requires from a pupil to remember some data, but in a way which motivates the pupil to receive these data, by techniques and methods that he finds suitable, and it enables him to store them in his brain, from where once, he will use them again. The organisation of such education where the pupil is put in the centre of the whole process and where we try to connect the acquiring of knowledge with all the subjects, so that the learning of some subject-matter makes sense for the pupil, is very demanding. That is why teachers avoid it or use it in a limited form. The purpose of the paper is to present the example of the cross-curricular connection carried out in the second grade of the nine-year elementary school that is based on the usage of a puppet, which is a child's first bond with the theatrical performance, as it is in a way an animated toy with which he lives in a close co-existence, and at the same time, it is a means by which the child plays, and by playing, he learns.

Key words: alternative way of teaching, traditional way of teaching, cross-curricular connection, puppet

1. INTRODUCTION

The short research that I carried out has shown that a big proportion of adults associate the word learning with something negative in their life. With what? With school, when they had to sit down by the table for hours with books, textbooks, notebooks, and they felt uneasiness in their stomach, strong headaches, the fear of a strict teacher, the fear of a bad mark, the fear of parents if they did not meet their expectations etc. Who would think that school can have such a bad influence on the people, so that they view it as the big negative in their life?!

I am interested in knowing what would say all these adults who gave a negative opinion about school in the research that was carried out if they knew that their attitude influences the attitude of their children. They would probably make an effort, at least in front of their children, to hide this dissatisfaction of theirs, but unfortunately, small children are incredible creatures who read us as an open book. I remember some Ukrainian proverb that I met in the lectures of my post-graduate study that goes like this: »Обличчя - дзеркало душі,« in translation: »A face is the mirror of the soul«. And how true it is! We people many times many things sugar-coat in nice, kind words, but we are not aware by doing it that our face, our eyes always betray us, as they tell our collocutor more than one hundred of our true and/or false words prepared in advance. That is why, if we only think a bit, it is not strange that children, who are innocent, pure creatures, see in the face of their parents, and not only of them, but in the face of their educators, teachers, their real feelings. Is it not like that?

What has been written right now leads to another important matter that I am interested in, and that is, what would the teachers of the people with a negative attitude that were included in the research say if
they knew that it was maybe just their fault that their ex-students have a negative attitude towards school. They would possibly ask themselves in surprise why just they should be culprits. The answer is simple. An educator and a teacher are the people who influence a child very strongly. The child sees by entering the kindergarten, school in them such a strong authority that their words have many times a bigger importance than the words of his parents. And what happens if this authority that means to a child that much is unfair to children that he has in front of himself, if he neglects some children on the behalf of the others, if he shows attachment only to some that the children call an educator’s, a teacher’s pet? Even though these are the things that some educators, teachers, we have to admit it, do subconsciously, they influence the child enormously.

But not to concentrate too much on this theme that, as we have seen so far, by itself opens a discussion that we could write about on many pages, let us step back and by the aid of learning definitions that some authors have used in the last fifty years let us see what the word learning in reality means.

In The dictionary of standard Slovenian language it is written that learning means »by transmission of knowledge to train how to carry out some task, activity«.

The English dictionary claims that learning is about »activities that impart knowledge or skills«.

The official and professional definition of learning that UNESCO used in 1993 goes as follows: »Learning is any change in behaviour, awareness, knowledge, understanding, attitudes, skills or abilities that is permanent and we cannot ascribe it to the physical growth or to the growth of inherited behavioural patterns.«

The national professional group for the preparation of the White Paper on Education in the Republic of Slovenia defined learning as a process which is going on »in different learning environments and in different ways and it is part of the growth of the individual and community as a whole«.

The international school in Bangkok sees in learning a life-long adventure through which students build permanent understanding by the growth and acquisition of knowledge, skills and beliefs.

3 Likar, V 2011, Slovar slovenskega knjižnega jezika, Inštitut za slovenski jezik Frana Ramovša ZRC SAZU, viewed 6 April 2012,
4 ExoCrew 2010, Accurate & Reliable Dictionary, ExoCrew, viewed 6 April 2012,
6 Krek J, Metljak M 2011, Predlog zasnove izobraževanja odraslih v Beli knjigi o vzgoji in izobraževanju v RS, Zavod RS za šolstvo, viewed 10 April 2012, pp. 6,
Marentič Požarnik claims that learning is «a process of progressive, permanent change of an individual on the basis of experience, and by that the existing knowledge, but also beliefs, expectations, feelings of an individual and his social frame essentially influence what he will learn and how».

Pograjc Debevec defines the notion of learning as «changing an activity by the influence of experience and with a relatively permanent effect. It does not encompass only school learning and professional training, but also creating feelings, gaining interests and beliefs, creating impressions, even psychological disorders».

Rozman claims that learning is «a relatively permanent change in the knowledge and behaviour of an individual, which is the consequence of experience».

Lipičnik defines learning as «a process of association links which influence the changing of activities with a relatively permanent effect of change in behaviours».

According to Kamenov learning is «defined as a process directed to conscious acquiring, understanding and mastering of facts, notions, conclusions, opinions and generalisations about objects, phenomena and ways of dealing with them, their generalisation and perfecting abstract knowledge systems. Learning encompasses production and formation of experience, the search of the core of phenomena, re-structuring the already existing knowledge and establishing knowledge connections. In such a way learning is the condition and way of acquiring and developing knowledge, abilities, habits and skills necessary for the life of children, their co-operation in social relations, formal education and self-education».

Professor Opara in his lectures to the students of doctoral study of the Faculty of Education in Koper in the subject entitled Contemporary findings of educational studies revealed his definitions of learning which claim that learning is «communication» and «changing of an individual by his own activity».

If we summarise all the above written definitions in one sentence, we can say that learning is a lifelong process which is about remembering some facts, but in a way that motivates a student for accepting these data, and it makes it possible for him to store them in his brain from where to use them once again, by the techniques and methods close to him.

Now, when we found out what the word learning means, let us step forward and see also what the word teaching means.

6 Božidar Opara, 06. 04. 2012.
In the dictionary of standard Slovenian language it is written that the word teaching means »professionally present themes at school«. The English dictionary claims that teaching represents »ideas or principles taught by an authority«. Dr Kramar is sure that teaching is a demanding and complex activity by which a teacher involves students in all the phases of the educational process, triggers, encourages and directs their activity, so that they (also) alone search for, find out, create, structure and acquire knowledge, and in such a way they develop their abilities and personality traits. In the book *A Course In Miracles* it is written that »teaching means to show by an example«. Sulčič wrote in her article that teaching is the activity of a teacher, but she explains that it does not mean that »teaching is about a one-way transmission of knowledge from a teacher to a student, as the student’s head is not an empty space intended to be filled by the theme«. Strmčnik claims that teaching means »to transmit an objective theme, values and experience to an understandable level for students, to encourage them and lead them purposefully in their learning and holistic development«. If we summarise shortly the above mentioned authors, we can say that to teach means to transmit knowledge from the older, more experienced to the younger, inexperienced, less experienced.

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17 Strmčnik, F 2012, *Pok in njegove funkcije*, Sodobna pedagogika, viewed 10 April 2012, <http://www.google.si/url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=1&ved=0CCEQFjAA&url=http%3A%2F%2Fsodobna-pedagogika.net%2Findex.php%3Foption%3Dcom_content%26task%3Dview%26id%3D973%26Itemid%3D49&ei=gnKET5nfD07zsgbE0N26Bg&usg=AFQjCNEkz-v6fyLoUe2tKDiCSe3cDSng&sig2=B8H1G_zeS69GBD9dO4AiA>
The question that arises in this case is in what way this knowledge should be transmitted. Namely, we know that different kinds of teaching exist.

In searching the answer to this question, Holt’s\textsuperscript{18} thought about the student’s understanding of the learning material can be helpful.

Let us have a close look at two completely different kinds of teaching, and we will get the answer to the question asked a while ago.

The first kind we will meet is a traditional kind of teaching which is about knowledge transmission that is many times separated from the students’ experience and from concrete life circumstances\textsuperscript{19}, and as such it represents the oldest form of organised education and is, according to the researches, still present in class, and a great deal, for that matter. The first reason for its domination in class is possibly this one, i.e. it is economical, as it enables the teacher to work with a big group of students simultaneously, and he does not need to prepare a lot of materials for them, the second reason is most likely this one, i.e. it ensures visual and non-verbal communication with all in the class, and this enables the teacher to see the whole class and it enables him at the same time that all the students see him. The mentioned reasons clearly show the reasons due to which the teachers get support from this kind of teaching – it eases their work.

\textsuperscript{18} Holt, 1974.

\textsuperscript{19} Marentič Požarnik, C 2000, Psihologija učenja in pouka, DZS, Ljubljana.
Diagram 4: The characteristics of traditional education

How does this kind of teaching influence students that find themselves in the class in which such a teacher teaches? The traditional kind of teaching means more bad than good for the students who are in contact with such a teacher every day, as he limits them in many ways. How?

1. He enables students to acquire knowledge from limited number of sources. The source is he himself and maybe a textbook.
2. He makes the student’s individualisation difficult, as he gives his attention only to one group or one student and passivizes the rest of them.
3. Feedback is made difficult, as the teacher is satisfied with the answer of one or two students.
4. It makes the co-operation among students impossible, as this represents distraction in the class that he does not want at all.
5. He inhibits the development of independent critical thinking, responsibility for one’s own learning.
6. He encourages dependence in learning, the lack of respect towards himself and others.

We can notice that this kind of teaching is not motivation-driven at all and that it inhibits the development and progress of students a great deal.

The second kind of teaching we will meet is the alternative kind of teaching. The dictionary of standard Slovenian language defines the notion of alternative as »a position when one has to choose between two possibilities, where one excludes the other«. What is written in it literally means what the alternative kind of teaching represents. Namely, the alternative kind of teaching represents something completely new, and for it to be introduced in the class, all the old, traditional has to be cut off. Let us have a look at the characteristics of this kind of education. Marentič Požarnik claims in one of her articles that the alternative kind of teaching »is carried out by independent searching, thinking, a dialogue in a group that makes sense, setting and testing hypotheses, i.e. learning that activates a person mentally and emotionally is personally relevant and part of real-life circumstances«. This is a kind of teaching in which the roles of a student and teacher are different from those that we met in traditional kind of teaching.

The task of the teacher in the alternative kind of teaching is to:
- lead the students through the whole process of learning,
- maintain their activity,
- maintain co-operation of all the students,
- enable the students to express their opinion,
- maintain a discussion,
- maintain the orientation to the task set.

Based on the presented kinds of teaching, we could say that the main difference between them is the difference that should persuade the teachers to give up the traditional kind of teaching and to reach for the alternative kind of teaching, i.e. the traditional kind of teaching that is centred to the teacher who presents the learning material as eternal truths, makes passive students who are mentally active only to the extent to receive information which has been verbally transmitted by a teacher, to remember it and to reproduce it when necessary.

What will follow is a detailed look at only one of the ways by which we can enrich the traditionally oriented education quite simply.

In the consciousness of many, playing and learning represent two strictly separated notions. »Just wait to come to school! You won’t play there anymore, but only study, study and study!« are the words by which many parents threaten their pre-school children before entering the first grade. This kind of thinking is totally wrong, as small children, and not only they, but also teenagers and adults learn a lot of important things just through play. Play represents the most important way of learning and acquiring the basics for the higher forms of learning and the development of thinking. Through play a child acquires impressions (by touching, observing, listening, smelling, tasting) and social skills (tolerance, negotiating, making compromises, accepting the viewpoints of those thinking differently).

In learning through play, which is as we have just realised extremely important for a child, a puppet can be very helpful to us.

A child meets the puppet, »a small model which represents a person or an animal when performing in plays«, very soon, if not before, it is when he enters the kindergarten. It represents the child’s friend by whom the child understands the world around

Diagram 5: The traditional kind of teaching

Diagram 6: The alternative kind of teaching

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21 Majaron, E 2004, Lutka pri oblikovanju mladega človeka, viewed 5 April 2012,
himself and within himself\textsuperscript{22}, and at the same time it plays the role of an important educational and therapeutic means, as it encourages the creative expression of the child, it develops his sensing, understanding, motion, co-ordination, interaction with the environment, talk, narration.\textsuperscript{23}

It is important to know that the puppet, who has as we have seen right now an extremely strong influence upon a child, becomes in the hands of an educator, teacher quickly »a person«, who takes over the educator’s, teacher’s authority, as it succeeds in settling misunderstandings among the children, the children can trust to it their secrets, problems unconditionally, they establish a symbolic communication with the environment through it, as the direct communication is too stressful for them, and it demands mastering the vocabulary that they do not know yet\textsuperscript{21}.

Broggini suggests five ways of applying the puppet in education\textsuperscript{22}:
- puppet/group,
- puppet/subject-matter,
- puppet/field,
- puppet/educational project,
- puppet play with a scenic puppet (puppet/dramatization).

| puppet/group | the puppet helps to develop the children's habits in a group, so that it tells them about the expected behaviour in different situations (e.g. the behaviour at breakfast, lunch, the behaviour in the toilet, the ways of coming to the kindergarten and going home, clearing the toys etc.) |
| puppet/subject-matter | the puppet encourages the children to learn and acquire knowledge within a certain theme, so that it presents it clearly and life-like (e.g. learning letters, numbers) |
| puppet/field | the puppet becomes a medium for developing some theme connected to the subject-matter and activities within the educational fields (e.g. rubbish separation, which represents big issue nowadays) |
| puppet/educational project | the puppet encourages the development of the child's emotional, moral and aesthetic sensibility (e.g. the presentation of the life of children who have not got the rights that the Slovenian children have) |
| puppet play with a scenic puppet | the puppet represents improvisation, puppet theatre, puppet plays, dramatization and adaptation of the pieces of art (e.g. we perform the fairy tale Stars' tolars) |

Table 1: Five ways of applying the puppet in education\textsuperscript{22}

\textsuperscript{22} Šimunov, M (2008), »Lutkarski igrokazi nepresušan su izvor dječeg stvaralaštva«, Metodički obzori, vol. 3, no. 2, pp. 83–99.

\textsuperscript{23} Majaron, E 2004, The puppet - what a miracle! Puppets in the child’s development, viewed 4 April 2012,
By the aid of this table, we quickly find out that we can use the puppet in all the subjects, in any theme that is planned in the curriculum. Let us have a look at only some examples.24

The coverage of the fairy tale, poem … in Slovenian by the aid of the puppet is much more interesting, and at the same time, it helps the student to remember them better. But it is not only that. The puppet helps a reserved child to express himself clearly and aloud when he tells how he experienced what he read.

In Mathematics, the puppets enrich learning of many complex notions in very simple ways: the beak of a greedy puppet bird helps a child to understand mathematical symbols meaning »more« < and »less« >, the caterpillar puppet with many limbs helps a child to learn counting etc.

The Curious Puppet, who is so much interested in everything and asks all the time whoever she can, takes us to explore our environment daily in miraculous travels in the past, future, with the people who live differently than us etc.

The Sporty Puppet in Physical Education encourages children when they are climbing, jumping over the vaulting box, running for 50 metres, in games such as between two fires, hitting fleas etc.

The puppet loving music explains to children clearly musical notions that they find difficult to understand, such as a clef, whole notes, half notes, quarter notes, pauses etc.

In Art, we see a subject in which a student makes his own puppet that he makes alive when it is finished, he breathes life in it, i.e. he gives it voice and motion.

Apart from the themes that we find in the curriculum of individual subjects, the puppet can be applied for the themes that are not in the curriculum, but they often appear in everyday life of some class (e.g. when children fight with each other for something, when they swear at each other, when the first signs of falling in love arise etc.).

Its universal possibilities of appliance originate from the fact that the puppet world represents for a child and adult the world of unlimited phantasy, if some conditions are fulfilled, of course.

The condition for a successful appliance of the puppet is undoubtedly the teacher/puppeteer who makes the puppet alive, so that he gives her voice and motion.25 Namely, it is known that even that pretty, attractive puppet can become boring in the hands of a puppeteer/teacher, on the other hand, even a usual small ball can become an object full of magic, an object that thinks with its head and feels with its heart in the puppeteer’s/teacher’s hand.

If we take as our starting point all that has been written so far, we could say that the puppet brings in the class if it is applied in the right way, of course, relaxation, fairy-tale atmosphere, excitement, curiosity and pleasant atmosphere, and in such a way it represents a medium of communication

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between a teacher and child and among children themselves. It gives the opportunity for the child to express his feelings, resolve conflicts and express his own view of the world, and it enables the teacher to understand the child easier, recognise his feelings and difficulties and to reach learning goals faster and in a more interesting way.  

2. CROSS-CURRICULAR CONNECTION IN THE SECOND GRADE

Cross-curricular connection is a method being talked about a lot, but only a few apply it in their teaching, at least in Slovenia. The ones who apply it, unfortunately, apply it many times in a totally wrong way. We can see this wrong way of appliance many times in Environmental Education, as the teacher’s abuse of other subjects is clear. Most frequently, Slovenian is affected by these abuses, as it is used as an excuse to present a certain theme to students easier, but by doing that they are not aware that they do more harm than good. When the teachers cover in Slovenian a fairy tale about some animal with the intention for the students to get to know the animal’s characteristics in Environmental Education, they do not understand that such an approach is wrong, as many times, the characteristics that the animal has got in the fairy tale do not equal the ones that the animal has got in the real world.

Let us take as an example of the fairy tale by Svetlana Makarovič entitled The Little Squirrel of a Special Kind. The character from the title and also the main character of this animal story is a little squirrel called Čopko, who has got one paw curved in an unusual way and thinner than the others and due to that it cannot jump from one branch to the other, but it compensates this weakness of his so that he learns other things: to sing, add and subtract walnuts, differentiate leaves of different trees, observe the life of birds, flowers, trees, forecast weather, tell wonderful stories. We can notice that the characteristics of the little squirrel Čopko, which have been described right now and which present him as the most intelligent and experienced little squirrel in the whole forest, so that all the squirrels

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keep going to him for advice, do not fit the characteristics that a squirrel has got in reality. The squirrel in reality does not compensate its weaknesses by developing some other abilities, as the little squirrel Čopko did in the fairy tale, but they sooner or later die because of them or become pray to other animals.

Just due to many wrong approaches that appear in the teacher’s lesson planning that should be beneficial to the students, I decided to present a way in which we can plan a correct cross-curricular connection that has in this case originated from the Environmental Education, but it is connected with other subjects that the students have in the second grade and enables students to transfer the acquired knowledge from one field to the other, from one subject to the other, and at last, but not least, from the school, “superficial” situation to the life, “real” situations.

**Diagram 8:** Riddles and questions included in the repetition of the covered theme

### 2.1 Example of cross-curricular connection supported by the puppet

If the puppet appears in front of the students with a question that it cannot answer alone, it will
encourage the students to explore and find answers with it. But in reality, they will be getting to know their world, their environment. And I used just this characteristic of the puppet for lesson planning that I will present in the continuation of this paper.

In the introductory part, I told the students that Metka had visited us to take us to the park, where we would explore the surroundings together. Metka greeted the students nicely and started a conversation with them about our behaviour outside. She told them that they were not allowed to shout outside, as other students were having classes, they had to walk in a group, so that they all could hear her, they should not tear leaves or fruits, they had to listen carefully to her instructions, so that they would know what they had to do. In continuation, Metka told the students to get their shoes in silence and to wait in front of the school in a line of pairs. When the students got their shoes, we went together to the park, where Metka invited the students to sit on the benches that formed a semi-circle. When the students got quiet, she read to them riddles about animals, fruits and seasons that they got to know in Environmental Education lessons.

After a short repetition of the covered theme, Metka divided the students in two groups, one was formed by boys, the other by girls, and she told them that they would divided in such a way prepare and sing, if they liked they could accompany it by instruments and dance the song about autumn. The boys presented the poem first, and then the girls did it. Metka set the order by pulling the tree twigs. The group who pulled the longer twig, started first.

Diagram 9: The instruments by which the students accompanied the poem

When both groups presented the poem, Metka told the students that she knew some other poems about autumn. She read them to them.
Diagram 10: Poems about autumn

After she read the poems and they talked about their content, Metka showed to the students a basket, in which there were tree leaves and fruits. She told them that they would be researchers on that day. She asked them if they knew who is a researcher and what he does. By the help of The dictionary of the standard Slovenian language that she took she completed the students’ ideas about this profession.

In the next part, Metka announced to the students that they would research in groups of three. She explained the procedure to them:

1. Each group would get one tree leaf and fruit.
2. When all the groups got the tree leaves and fruits, the research would start.
3. In the surroundings, the groups would find a tree or bush which had got the same tree leaves and fruits, as they received.
4. When they found the tree or bush, they would start drawing, and they would do it in such a way that one in the group would draw the tree leaf, the other the fruit, and the third would make the imprint of the bark by crayons.

Metka wanted the students to pay attention to the little bell which would announce the end of research. The research followed. During the group work, Metka and I walked from one group to the other and observed how they accomplished their set tasks. After a certain time, Metka rang the little bell, and the students approached us. We sat on the benches where we were sitting at the beginning of the lesson. Metka invited the groups to present their findings. We did it in such a way that the members of a group stepped forward and presented the tree leaf and fruit that they received and what and how they drew. When all the groups presented their work, Metka and I chose the works that we used to make a class book.

In the final part, Metka told the students that we would play Autumn Quiz. She divided the students in groups of 4. She gave two leaves to each group. On one of them there was written YES, on the other one, there was written NO.

Before the beginning of the game, she explained the procedure and rules of the Autumn Quiz: »I'd
make statements that you’d respond to by raising the leaves. If the statement were true, you’d raise the leaf where there was written YES. If the statement were false, you’d raise the leaf where there was written NO.«

Before the beginning of the quiz, each group chose its name. Metka and I wrote the names on a sheet of paper, on which we wrote points that individual groups received. Correct answers received one point. Wrong answers received zero points.

<table>
<thead>
<tr>
<th>rabbits</th>
<th>butterflies</th>
<th>cats</th>
<th>mice</th>
<th>foxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

*Table 2: An example of the table with points*

Diagram 11: The statements used in the game Autumn Quiz

After we finished Autumn Quiz, we read the points that individual groups received. When we checked how many points individual groups received, Metka told the students to get in the line of pairs, then we went to the classroom. There the students got quiet, so that they put their heads on the desks and they thought about the activities we had that day. The students presented their impressions and feelings about the way of learning on that day. At the end of the class, Metka told the students that they would listen to the song Feasting. They would try to present the melody by drawing. The students went in pairs, then the soundtrack was on its way. The students were drawing the melody that they heard. An exhibition of students’ works was put on the board.
A short, but encouraging analysis of the cross-curricular connection carried out

The students enjoyed learning with the puppet called Metka. She motivated them that much that I had a feeling that they did not see me at all. They followed all her instructions without one single hesitation, also the ones about their behaviour during getting their shoes and going for a walk to the park, and I did not succeed in it as a teacher during the time of my training before that.

In the days that followed, their interest in the puppet Metka, contrary to my expectations, highly increased. They were asking all the time when would Metka visit them again, when would she go with them for a walk etc.

To this purpose, I decided to bring her to the class and to have her all the time on my desk. Thus, Metka observed during my lessons what we were learning, during breaks, she was talking to the students, she was playing with them etc.

Some students even asked if Metka could go home with them, and I agreed, of course. Thus, Metka received another important role in our class. Every Monday when she came back to the class, she was telling what she experienced during the weekend with a student she visited.

A surprisingly good response of students to the puppet encouraged me to plan lessons by the aid of the puppet Metka, but not only the lessons of Environmental Education, but also Slovenian, Mathematics, Music, Art and Physical Education. And each time anew, I was surprised by the response of students, who did not get fed up with the puppet, and me, its »creator«, till the end of the scholastic year.

3. CONCLUSION

Learning is, as we have seen it through the paper, a process which demands from a student remembering of some data, but in a way that motivates the student to change these data and enables him to store them in his brain, from where he will use them one day, by the aid of different techniques and methods that are close to him. The organisation of such education where the student is put in the centre of the whole activity and where we try to connect the acquiring of knowledge with all the subjects and make sense of learning some theme, takes a lot of the teacher’s effort, as it demands from him to invest a lot of his time, knowledge, energy, effort etc. Just because of that many teachers avoid the lessons organised in such a way. Some of them do use it in a limited form, but the majority gets support from their favourite traditional methods and techniques, which inhibit the development and progress of the students, as we have shown through the paper.

The purpose of this paper was to show that it is possible to organise education as a correct cross-curricular connection, which is based on the appliance of the puppet, which involves the students actively in the learning process all the time.

The purpose of this paper was fully reached, as the activities by which the puppet called Metka carried out the demonstrated cross-curricular connection motivated the students for learning and they maintained their desire to research and discover new things all the time.

It is true that planning such a kind of teaching takes a lot of the teacher’s time, energy, effort etc., but the look at the students who enjoy such lessons and, what is most important, learn a lot, due to the relaxed, fairy-tale-like, exciting, curious etc. atmosphere, pays off all the invested effort, at least mine.
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STANDARDIZED TASKS, WHICH ESTABLISH LITHUANIAN FOURTH-FORMERS’ SATISFACTORY TEXT APPREHENSION ABILITIES

Daiva Jakavonytė-Staškuvienė
Lithuanian University of Educational Sciences, Educational Development Center,
Kareivių 2F – 22, LT – 08248, Vilnius, Lithuania.

Abstract

The significance of core, fundamental abilities in human life is a topical problem being discussed in modern global theory and practice. Comprehension of a text being read is one of such abilities, which has impact on the success and quality of learning other subjects at school. The article shares the experience of what should the standardized tasks be in order to establish Lithuanian fourth-formers’ satisfactory text apprehension abilities. Detailed inventories of the above mentioned abilities and the examples of statistically significant tasks are presented here. The research was carried out in 2011 in various Lithuanian schools and was financed by the EU structural funds (the project ‘Creation of standardized instruments for pupils’ achievements’ assessment and self-assessment applied in secondary schools, the author of the article was the manager of the Lithuanian tests’ for the fourth-formers creators’ work group). The product of the research is the creation of tasks, which establish the level of pupils’ achievements and which show the most problematic issues of the matter. Earlier in Lithuania when assessing pupils’ reading achievements, it was difficult to create tasks, which could be accomplished only by pupils with satisfactory achievements, as these tasks were either too difficult (most pupils even did not try to accomplish them) or too easy (most of the researched managed to cope with them). Present tasks, which test pupils’ satisfactory reading achievements, have changed the situation completely, as most of the researched accomplish them, however, only the pupils with really high level reading abilities, manage to answer the questions correctly. The rest of the pupils, that is, those with lower text apprehension abilities, make mistakes.

Key words: standardized tasks, satisfactory text apprehension abilities, fourth-formers.

1. TOPICALITY OF A PROBLEM

Living in a rapidly changing global society of the XXI century makes the question of core and essential abilities, which are necessary for a person’s qualitative life, being discussed more and more often. It is likely, that general person’s literacy, which consists of ability to read and understand a text, will keep remaining one of such abilities. These abilities are significant for each person, because the level of other abilities, such as independent information retrieval and accessibility, depend on them. According to E. F. Schiefelbein, N. F. McGinn (2011), unsatisfactory ability to read is an obvious reason of pupil’s inability to learn at school. Pupils, who cannot read so well that they could reflect on the theme of the book they have read, usually learn only the amount of material they have been introduced to during the lesson. The authors state that half of pupils are not able to understand simple content texts. Low quality of pupils’ ability to read has been stated, because only half of pupils of such age are not able to read so well they should read at the end of a certain class. Scientists A. Fterniati, J. A. Spinthourakis (2004) have studied the issue of 10-12-year-old primary school children’s text
apprehension level. They have found out that the level of pupils’ text apprehension abilities is rather low and the type of a text has impact on text apprehension. Authors have emphasized the application of various strategies while developing text apprehension abilities. Pupils’ active work is useful not only for the development of text apprehension abilities, but also for social cooperation. Pupils cooperate in this way, when they play different roles while analyzing texts of various types. Next to foreign scientists’ A. Fterniati, J. A. Spinthourakis (2004), E. F. Schiefelbeino, N. F. McGinno (2011) thoughts there are Lithuanian fourth-formers’ reading achievements, which are lower than expected. The results of National Research on Lithuanian Pupils’ Achievements carried out in 2007 it became clear that even 23 percent of the fourth-formers were with low achievements and 30 percent of them were with satisfactory achievements. These pupils are able to find directly stated information, answer the questions, which show the elementary level of text apprehension. The article discusses standardized tasks, which establish the fourth-formers’ satisfactory level of text apprehension abilities. Also there are examples of tasks and their statistical characteristics.

**The object of the research** – standardized tasks, which establish the fourth-formers’ satisfactory text apprehension abilities while reading fiction and non-fiction texts.

**The goal of the research** – to investigate, which tasks establish the fourth-formers’ satisfactory text apprehension abilities while reading fiction and non-fiction texts.

**The objectives of the research:**

- to reveal the communicative aspect of text by discussing the issue of notion of text, the methods of analyzing the text content and the forms of text analysis organization;
- to present the examples of tasks, which establish the fourth-formers’ satisfactory text apprehension abilities while reading fiction and non-fiction texts.

The methods of the research: testing of pupils. The statistical package program *SPSS* (Statistical Package for Social Sciences) has been used to analyze data of the research.

**2. COMMUNICATIVE ASPECT OF THE TEXT**

Latin word *textum* means contact, combination, connection, coherent arrangement of words. *Text* is a complex, multifaceted phenomenon. According to V. Ramonaitė (1997), text is a multifaceted concept. Text is „a coherent word consistency, which means one or another content. Text combines direct and figurative words, and word changes its meanings in a text. Coherence allows to convey various information, the most complicated content” (1997, 46). V. Daujoitytė (1998) asserts that *text* is each coherent complex of signs. “Text is the primary item for the whole communication: for the art of word, for the message of word and for the science of word” (V. Daujoitytė, 1998, 61). Variety of texts is endless. True things and the things that seem to be (an event, an idea, and a thought) can be described in a text. While reading a text it is important to understand the described things adequately. Text is an object, which draws the reader’s attention. According to V. Daujoitytė, comprehension is the most important thing. Comprehension of a text depends on the complexity of text content and on the reader’s experience. Communication happens while analyzing a text. A piece of creation is being analyzed in order to understand it. R. Barthes (1984) also discusses the multiplicity of text. The author finds the division between a piece of creation and a text and believes that the text is being experienced only, when the reader is active and interprets it. It means that the text cannot stiffen in a book shelf unlike the piece of creation, because the latter is clearly expressed, visible and tangible. The meaning of the text must be created and depends on the reader’s competence, which is requested by the text.
itself in order to read it best. In summary we can state that text is a multifaceted concept. It is a coherent arrangement of words, which makes certain content. It is important that the reader understood this content adequately.

R. Tūtlytė (1998) reveals the communicative aspect of text very clearly. The author expands the meaning of the concept of reading associating the process of reading with the text interpretation and understanding. R. Tūtlytė (1998) notes that the author of the text communicates only with the help of written words unaware of the reader’s reaction. The reader must know the code (must be able to read) in order to understand the writer’s (author’s) language. The aim of the processes of reading, interpretation and comprehension is an adequate understanding of the same text by the author and the reader. Different methods of reading a text (experience, analysis and interpretation of a piece of creation) should be used in order to achieve the goal. “It is important that pupils knew the stages of reading, felt the frameworks of one or another activity and understood the sense of their actions”(Tūtlytė, 1998, 35). Text apprehension is being developed very slowly by constantly coming back to the most important elements using new literary and life experience. The meaning of the text is being created by the reader.

According to W. Iser (1976), A. Ruškys (2000, 2004), it is necessary to teach (learn) to associate text analysis with communication between people. Ability to interpret a text affords the possibility both to travel in time while getting acquainted to the text and to develop the culture of linguistic communication. W. Iser (1976) emphasizes the connection between the text apprehension as well as social and existential influences and the analysis of being in the world. The structure of the text and the structure of the act of reading complement each other, and successful realization of communication depends on the extent the text has been understood by the reader, or, in other words, person’s ability to understand and reflect. That is why W. Iser considers reading as a dynamic interaction between the text and the reader. The entirety of the text meaning can be understood only with the help of synthesis, when a person combines information he has read with his/her experience. Thus the text is being moved into the reader’s conscious.

L. Ruseckienė (2001) distinguishes stages of working with a text: disposition for reading → initial reading → text apprehension (analysis and interpretation). A pupil must be prepared for each text reading. Special introductory works contribute to favorable for reading emotional and formal climate. It is necessary to create the system of initial reading of a piece of creation taking into account pupils’ age, text complexity, its’ size and genre, and curriculum requirements. When teaching pupils to analyze and interpret a piece of creation it is most sensible to assign such tasks and questions, which would help to understand it. A. Ruškys (2004) defines text analysis as a three-dimensional “life – ego – text” interaction, where text values and cognition, and understanding of them are the axis of this interaction. While analyzing and interpreting a text the situation of linguistic and cultural cooperation is important as cognition of text becomes cognition of life. Text is one of the most important forms of linguistic activity, which makes it possible to direct pupils towards creating their personal pattern of link with the world, cognition of the system of socium values and perception of possibilities to materialize their personal needs in the socio-cultural environment. The issue of decoding is very important for the analysis of a text. Teaching to decode (to identify the exact meaning of the word, expression, and the whole text) is a complicated literary and linguistic activity. Decoding of a text is based on pupil’s experience. N. Borusevičienė (2004) states that communication means an exchange of verbal and non-verbal information (knowledge, thoughts, ideas, feelings, experience), which is being extended and revised during the process of education. Pupils can be taught communication on the basis of the content of texts they have read. Such texts can be the object of communication, that is, the theme of conversations.
Majority of scientists use the concept of fiction and non-fiction texts in their works, but they do not comment and describe them. G. Viliūnas (1998) points out certain features of belles-lettres – factiousness and (or) specific forms of language. A work of fiction aims at conveying polysemous information. When analyzing a work of fiction, it is necessary to discuss its time, space, characters, problems, ideas. Non-fiction text has such characteristic features as the impression of truth and reality. So that a pupil understood what the recognized signs of a piece of writing mean, it is necessary to give a sense to them and to associate the text with the context. R. Tūtytė (1998) distinguishes such features of an informative (non-fiction) text as formulation of thoughts as propositions, objectiveness, exactness, clear language structure, single-minded language. Creativity, polysemy and fiction are typical features of a literary (fiction) text. According to G. Viliūnas, R. Tūtytė, reading of a text and comprehension of its meaning depends on attitudes, expectations, context, ambitions, interests and situation. Features of a fiction text are described in the Encyclopedia of Journalism (1997). Imagery, visual concreteness, emotionality and artistic precision are the most common stylistic features of such kind of texts. The purpose of a fiction text is to affect the reader’s mind and will through his feelings and to bring him/her delight. The author reveals his emotions and experience in such texts. V. Saliūnė (2004) states, that language should be learnt with the help of the variety of different texts (fiction texts should not be prevailing in the process of language learning (teaching). E. Marcelionienė and V. Plentaitė (2004, 2007) discuss the aspects of fiction texts analysis in primary classes. Pupils are being taught to feel a deeper sense of the text being read starting with first of all by understanding its theme and the main idea. The reader should be taught to spot text details, descriptions of characters and the atmosphere, as well as definitions of actions. Pupils are being trained to make text-based assessment of characters; understand the figurative meaning of words and metaphors. The authors point out two criteria of a fiction text, which should be followed: high artistic value and children’s of this age interest. E. Marcelionienė and V. Plentaitė (2004, 2007) relate reading fiction texts with pupils’ text apprehension by starting with the simplest elements and finishing with more complicated; they associate text analysis with life experience of a child. Analysis of a fiction text involves the theme, the main idea, the place of action, the time, characters and the sense of language beauty. According to E. Marcelionienė and V. Plentaitė (2007) emotional disposition, which is the first stage of reading, helps to understand a piece of the fiction work. Reading in order to understand the meaning of the text is the second stage of reading a piece of writing or its extract. “The main purpose of reading is to understand the work. This requires good reading skills, ability to accept information, to reflect on it in order to make it an integral part of the child and to share personal experience gained while reading” (Marcelionienė, Plentaitė, 2007, 27). Earlier mentioned authors discuss the methods of analyzing the work of fiction. It is recommended to answer the questions on the basis of the content of the piece of work and to raise text-related questions. While analyzing various narrations it should be found out how the event starts, what happens, how the event ends and what the causes of the event are.

In summary, it can be stated that a text is a coherent literary creation, which has the meaning, is oriented towards the addressee, transfers information and makes impact. Text is a form of communication. Text is a model of action with the structure composed of the author, the message and the addressee. Verbal communicative functions of language are being materialized with the help of text. In the aspect of communication text can be described as a conceptual (having an idea) linguistic work, which in the sense of communication is oriented in certain sphere of communication and has the purport of rendering (informing of) somebody’s thought. A text, whose content is fictitious, created, and unreal and whose language is polysemous, is named as a fiction text. A non-fiction text is an objective, informative text, which has the feature of being exact, having clear language structure, unambiguous language; it discusses reality, true things. A text is being used both as a didactic mean
and the mean of communication. Ability to create and understand a text is one of the most important personal abilities.

Description of the empirical research

45 minutes were given for the accomplishment of the standardized reading test, whose purpose was to assess Lithuanian fourth-formers’ reading achievements and to establish their level. Pupils of the same class were given different tests containing 22-26 questions/tasks. If there were two texts in the reading test, each of the texts had 11-13 text-related questions/tasks. There were several versions of creating questions for a reading test and they depended on the type of the text and the level of questions/tasks’ complexity.

The aspects that should be covered while creating reading tests of different complexity levels are as follows: understanding the essence of a text; distinguishing and discussing the entirety/details of a text; giving his/her opinion about the text that has been read; distinguishing and discussing the characters and/or objects; recognition of the nature of the text; apprehension of the elements of linguistic expression.

According to the aspects discussed above distribution of the test tasks should be like it is presented below:

Table 1. Distribution of tasks of a standardized reading test according to the test formation aspects (%)

<table>
<thead>
<tr>
<th></th>
<th>Essence of a text</th>
<th>Text entirety and its details</th>
<th>Points of view/attitudes</th>
<th>Characters/objects</th>
<th>Nature of a text</th>
<th>Linguistic expression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiction text (%)</td>
<td>5</td>
<td>65</td>
<td>10</td>
<td>5</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Non-fiction text (%)</td>
<td>5</td>
<td>50</td>
<td>15</td>
<td>15</td>
<td>5</td>
<td>10</td>
</tr>
</tbody>
</table>

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From the data in Table 1 it can be seen that most of the tasks in a test should be those, which disclose the entirety and details of a text. There will be more tasks about the characters and objects, when pupils are asked to read and analyze a fiction text. There should be the same quantity of tasks related to the essence of a text, the nature of a text and linguistic expression both for a fiction and non-fiction text. Two or three tasks should cover linguistic expression of a text and only one task can cover both the essence of a text and the nature of a text.

Further there is the distribution of tasks, which test text apprehension abilities, according to cognitive groups: 30 percent of tasks will test pupils’ knowledge and apprehension, 40 percent will test application abilities and 20 percent will test higher cognitive abilities. Questions of diverse difficulty are created in order to assess pupils’ abilities with the help of the test. Satisfactory level of pupils’ achievements should be tested by 30 percent of questions in the test, the basic level should be tested by 50 percent of questions and higher level should be tested by 20 percent of questions. The above
mentioned proportions for the reading test can be slightly (± 5 %) changed taking into account the nature of the text/texts.

Due to the limited scope of the article only tasks, which test pupils’ satisfactory text apprehension abilities will be analyzed. Below there are the selected reading abilities, which have been selected in order to test pupils’ satisfactory text apprehension abilities (see Table 2):

**Table 2. Division of pupils’ satisfactory text apprehension abilities according to the aspects of tasks’ formation**

<table>
<thead>
<tr>
<th>Aspects of tasks’ formation</th>
<th>Short description of pupils’ higher text apprehension abilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essence of a text</td>
<td>Defines the theme, when the theme is indicated in the name of the text and/or it is described in the first paragraph of the text. After reading a fiction or non-fiction text is able to define the theme, when the content of the text is easily understandable and close to the pupil’s environment.</td>
</tr>
<tr>
<td>Text entirety/details</td>
<td>Finds the direct information (details, actions, facts, propositions, events), which is clearly and consistently stated in a text. Specifies one aspect. Finds and analyses cause- effect relationships between the actions, events and facts defined in a text, when cause- effect relationships are clearly indicated in a sentence, in the nearby sentences or in the answers to choose from. Lines up the directly mentioned events in a certain sequence, when they are written in the answer to choose from. Finds the author’s generalization, which is directly stated in a text. Summarizes the entire text or its fragment by choosing one out of several given propositions generalizing the text</td>
</tr>
<tr>
<td>Points of view/attitudes</td>
<td>Expresses his/her own experience-based opinion. Grounds his /her conclusion, answers and evaluation with the information given in a fiction or non-fiction text, which is close to the pupil’s environment or the content/context of a text is easily understandable for a child.</td>
</tr>
<tr>
<td>Characters/objects</td>
<td>Names the characters of a piece of creation. On the basis of the text specifies the main and other explicitly characters, objects and defines them in one aspect. Describes the special features of the character.</td>
</tr>
<tr>
<td>Nature of a text</td>
<td>Distinguishes the nature of a text (fiction or non-fiction, rhymed or not rhymed) and given information (fictional or real).</td>
</tr>
<tr>
<td>Linguistic expression</td>
<td>Associates one or several linguistic, artistic means of expression of a fiction text (synonyms, antonyms, vivid words and/or expressions, comparisons, sayings, addressees, exclamations) with the examples in the task. Explains the content of only the most commonly used and existing in the child’s active vocabulary means of linguistic expression (figurative words, vivid expressions, comparisons).</td>
</tr>
</tbody>
</table>

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In summary, it can be stated that standardized tasks, which disclose the satisfactory level of pupils’
text apprehension abilities, involve higher intellectual and comprehension abilities that are applied in
the most ordinary, standard situations and familiar contexts. Ability to define the theme of the text,
when the content of the text is easily understandable; to find explicitly stated information, what
confirms comprehension of the text; to associate information according to the example or with the
given propositions; to express his/her own experience-based opinion; to make direct conclusions
related to the text; to distinguish the nature of the text and to explain the content of very often used
and existing in the child’s active vocabulary means of linguistic expression are the abilities that are
typical of the fourth-formers’ satisfactory level of text apprehension.

3. EMPIRICAL RESEARCH DATA ANALYSIS

On the basis of the research statistical analysis data we have divided all tasks of text comprehension
tests according to their complexity: very difficult (index of complexity up to 20 percent), difficult tasks
(index of complexity from 20 to 40 percent), optimally difficult tasks (index of complexity from 40 to
60 percent), easy tasks (index of complexity from 60 to 80 percent) and very easy tasks (index of
complexity more than 80 percent). This article introduces the analysis of only easy and very easy
tasks, which show the satisfactory level of the fourth-formers’ text apprehension abilities. It has also
been tested, which very difficult and difficult tasks distinguished those pupils, who accomplished the
text apprehension task best and worse. Task resolution has been used as the statistical parameter of
task assessment. Several groups of task resolution have been pointed out: bad resolution tasks
(resolution lower than 20), satisfactory resolution tasks (resolution from 20 to 40), good resolution
tasks (resolution from 40 to 60) and very good resolution tasks resolution (resolution more than 60
percent). Groups of good and very good resolution distinguishing pupils, who have accomplished the
text apprehension test best and worse, are significant for the research.

We will present some examples of statistically tested standardized tasks, which assess the fourth-
formers’ satisfactory text apprehension abilities. Pupils answered text apprehension questions/tasks
after having read one or several texts. We will analyze certain examples according to the aspects of
tasks formation.

Tasks, which test the essence of a text. During the research pupils were asked to write the theme
defining the essence of the non-fiction text that has been read. Pupils with satisfactory level of reading
achievements managed to accomplish the task only when they were asked to answer the question with
the help of the text. Statistical data of the task are presented in Table 3:

Table 3. Statistical parameters of a standardized task, which tests the essence of a text and establishes
pupils’ satisfactory text apprehension abilities

<table>
<thead>
<tr>
<th>Example of task</th>
<th>Type of text</th>
<th>Type of question</th>
<th>Index of complexity</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why Neman is called the father of Lithuanian rivers and river branches: answer the question on the basis of the text.</td>
<td>Non-fiction</td>
<td>Open-ended</td>
<td>73.6</td>
<td>43.1</td>
</tr>
</tbody>
</table>

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From the example in Table 3 it can be seen that even pupils with satisfactory level of reading achievements are able to distinguish the content of the text, when the essence of the text is stated in the text and it is retold in the task. This is a very significant finding of the research, which shows that even people with lower text apprehension achievements are able to understand the essence of a text. Especially high resolution of the task testifies the soundness of the thought.

Tasks, which test text entirety/details. During the research a lot of tasks, which test the satisfactory level of pupils’ text apprehension abilities and when questions reveal the entirety/details of the text, had been created (see Table 4).

Table 4. Statistical parameters of standardized tasks, which test text entirety/details and establish pupils’ satisfactory text apprehension abilities

<table>
<thead>
<tr>
<th>Example of task</th>
<th>Type of text</th>
<th>Type of question</th>
<th>Index of complexity</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the process of making a drink? Number the statements according to the recipe.</td>
<td>Non-fiction</td>
<td>Open-ended</td>
<td>67,4</td>
<td>49,0</td>
</tr>
<tr>
<td>What is the maximum number of friends you could treat to the melon and strawberry drink, which you would make according to the given recipe?</td>
<td>Non-fiction</td>
<td>Open-ended</td>
<td>60,8</td>
<td>37,8</td>
</tr>
<tr>
<td>Write, why the melon and strawberry drink is recommended to serve immediately.</td>
<td>Non-fiction</td>
<td>Open-ended</td>
<td>70,4</td>
<td>44,1</td>
</tr>
<tr>
<td>Write, why it is not good to make pastries out of dough just taken out of the refrigerator.</td>
<td>Non-fiction</td>
<td>Open-ended</td>
<td>78,7</td>
<td>34,2</td>
</tr>
<tr>
<td>What time of year the action takes place? While answering the question please use the part of the text, where the story of Albina Baravykas is described.</td>
<td>Fiction</td>
<td>Closed-ended</td>
<td>76,2</td>
<td>0,35</td>
</tr>
<tr>
<td>What place it is best to choose for tree investigations?</td>
<td>Non-fiction</td>
<td>Open-ended</td>
<td>68,4</td>
<td>47,2</td>
</tr>
<tr>
<td>What is the tree reference book used for while investigating trees?</td>
<td>Non-fiction</td>
<td>Open-ended</td>
<td>68,2</td>
<td>60,4</td>
</tr>
<tr>
<td>Why did the pilots change their planned itinerary?</td>
<td>Non-fiction</td>
<td>Open-ended</td>
<td>75,6</td>
<td>64,9</td>
</tr>
<tr>
<td>Sentences from the both texts about ants, plant-llice and trees are given in this task. Connect the sentences with the certain text using lines.</td>
<td>Non-fiction and Fiction</td>
<td>Open-ended</td>
<td>58,3</td>
<td>79,2</td>
</tr>
</tbody>
</table>

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From the data in Table 4 it can be seen, that non-fiction text questions, which test apprehension of text details, have rather high resolution. This indicator shows that a pupil with satisfactory level of text apprehension abilities is able to number the events consecutively, if the events are explicitly stated in
the text; to find the exact information about any object in the text and to define explicitly stated causes and effects. If pupils are to read some pieces of writing while accomplishing the test, a pupil with satisfactory level of reading achievements is able to pick the information out of several texts and to attribute it to the required text. This task discloses the abilities that request rather complicated operations of intellection. The researchers were surprised with the statistical results of the above mentioned task, because it was considered that this task can be accomplished only by the pupils with basic and higher level of reading achievements.

In Table 4 there is a closed-ended question of fiction text apprehension, which was rather easy, as majority of the researched managed to answer it. It surprised that the resolution of this question was rather low. It means that this question does not differentiate the researched pupils, that is, both the pupils with high reading achievements and those with low achievements made mistakes. It is likely that the index of resolution was so low because of the alternative answers to the closed-ended question. Perhaps some answers need to be revised or changed.

Tasks, which test points of view/attitudes. During the research it was aimed at creating such tasks, which would help to disclose pupils’ opinion/point of view on the text they have read in various aspects. The author’s of the article many years’ experience of working in the group of researchers that studied Lithuanian fourth-formers’ text apprehension abilities testifies that it is rather difficult to create such questions, because pupils have failed answering them so far, thus the reasons of not answering have been uncertain. The progress happened when certain words (e.g., how do you think, according to you, etc.), which mean that pupils need to express their opinion, were placed in the wording of the question (see Table 5).

Table 5. Statistical parameters of standardized tasks, which test points of view/attitudes and establish pupils’ satisfactory text apprehension abilities

<table>
<thead>
<tr>
<th>Example of task</th>
<th>Type of text</th>
<th>Type of question</th>
<th>Index of complexity</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>How do you think why Gailius did not admit crashing</td>
<td>Fiction</td>
<td>Open-ended</td>
<td>73,3</td>
<td>48,2</td>
</tr>
<tr>
<td>the vase at once?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Which statement about the given text according to</td>
<td>Fiction</td>
<td>Closed-ended</td>
<td>84,9</td>
<td>29,7</td>
</tr>
<tr>
<td>you is the most correct?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How do you think is Kliukliukas friendly?</td>
<td>Fiction</td>
<td>Open-ended</td>
<td>70,0</td>
<td>54,5</td>
</tr>
</tbody>
</table>

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After reading fiction texts pupils are able to support their opinion on one or another issue, because the percentage of accomplishment of given tasks is rather high and the indexes of resolution also show good differentiation of pupils. Probably it is easier for pupils to accomplish such tasks, because they can refer both to the text information and their personal life experience.

Tasks, which test characters/objects. Pupils find it easy to accomplish the tasks requiring picking some objects out of the text and indicating the characters (see Table 6).
Table 6. Statistical parameters of standardized tasks, which test characters/objects and establish pupils’ satisfactory text apprehension abilities

<table>
<thead>
<tr>
<th>Example of task</th>
<th>Type of text</th>
<th>Type of question</th>
<th>Index of complexity</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are eggs and sausages at home. What products should be bought else in order to make “fast sausage-rolls” described in the second recipe?</td>
<td>Non-fiction</td>
<td>Closed-ended</td>
<td>65,0</td>
<td>38,5</td>
</tr>
<tr>
<td>Referring to the text name 5 things to have while investigating trees.</td>
<td>Non-fiction</td>
<td>Open-ended</td>
<td>63,6</td>
<td>52,8</td>
</tr>
<tr>
<td>In which country it was first started ringing the birds?</td>
<td>Non-fiction</td>
<td>Open-ended</td>
<td>73,9</td>
<td>67,4</td>
</tr>
<tr>
<td>What ocean did Steponas Darius and Stasys Girėnas cross?</td>
<td>Non-fiction</td>
<td>Open-ended</td>
<td>91,3</td>
<td>29,8</td>
</tr>
<tr>
<td>Write down the three main characters of the piece of writing.</td>
<td>Fiction</td>
<td>Open-ended</td>
<td>82,8</td>
<td>41,7</td>
</tr>
</tbody>
</table>

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After having analyzed the statistical data of the tasks presented in Table 6 it was noticed that pupils identified the objects specified in the task best while reading various non-fiction texts. The positive outcome of the research is that pupils with satisfactory level of text apprehension are able to select the required objects, when part of them is given in the task. This was noticed when pupils were analyzing the descriptions of certain dishes’ recipes. Pupils also succeeded in selecting the required objects according to the purpose of certain activity. While reading one non-fiction text pupils were asked to select the appropriate things used for the investigation of trees; whereas while reading another text they were asked to find out the name of the country, where the ringing of birds started. After reading the fiction text pupils with satisfactory level of text apprehension achievements were able to write down all main characters of the piece of writing.

Tasks, which test nature of a text. In the test there were only a few tasks, which tested the nature of the text and there was only one task, which could be accomplished by pupils with satisfactory level of text apprehension abilities (see Table 7).

Table 7. Statistical parameters of standardized tasks, which test nature of a text and establish pupils’ satisfactory text apprehension abilities

<table>
<thead>
<tr>
<th>Example of task</th>
<th>Type of text</th>
<th>Type of question</th>
<th>Index of complexity</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Write down at least three things, what miracles happen in Tinginėlių village.</td>
<td>Fiction</td>
<td>Open-ended</td>
<td>58,0</td>
<td>72,0</td>
</tr>
</tbody>
</table>

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Fictitious information and understanding of it is one of the aspects of a fiction text. The nature of the
text was tested by asking to write down the things, which are characteristic of a fairy tale. We can see
that the resolution of the task is very high, what shows that pupils with satisfactory level of
achievements are able to select certain features (in this case miracles), when these features are
explicitly described in the text.

Tasks, which test linguistic expression. Research data results show that it is very difficult for the
fourth-formers to explain the meaning of figurative words and expressions, and to find comparisons,
but there also were several unique cases, when pupils with satisfactory level of reading abilities were
able to explain the meaning of expressions (see Table 8).

<table>
<thead>
<tr>
<th>Example of task</th>
<th>Type of text</th>
<th>Type of question</th>
<th>Index of complexity</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Write the meaning of expression to cram a full belly.</td>
<td>Non-fiction</td>
<td>Open-ended</td>
<td>73,8</td>
<td>0,46</td>
</tr>
<tr>
<td>What does the name of Neman mean?</td>
<td>Non-fiction</td>
<td>Open-ended</td>
<td>75,5</td>
<td>48,6</td>
</tr>
<tr>
<td>Explain how you understand the expression fire licked the trees.</td>
<td>Non-fiction</td>
<td>Open-ended</td>
<td>82,1</td>
<td>39,6</td>
</tr>
</tbody>
</table>

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It has been noticed that it is easy for the fourth-formers to explain the meaning of those used in texts
expressions, which are common not only in texts, but also in everyday’s human life situations. A lot of
pupils were able to explain the meaning of the expressions to cram a full belly, which means to eat a
lot, to fill up, and fire licked the trees, which means fire, conflagration. It should be mentioned that
although the number of pupils, who explained the meaning of both expressions correctly, is very
similar, the resolution results are different. The resolution of explaining the meaning of fire is good, so
the task was really accomplished by the pupils with satisfactory level of text apprehension abilities.
Contrarily, even 73 percent of the researched managed to explain the meaning of the expression to
 cram a full belly, but not all of them were with satisfactory level of achievements (the resolution of the
task is very low). Pupils with satisfactory level of achievements are also able to accomplish the tasks
of explaining the meaning of certain words, when the answers are given in the text. The task requesting to explain the meaning of the name of the biggest Lithuanian river Neman, which was
stated in the text, confirmed the above mentioned proposition.

Summarizing the data of the empirical research we can state, that even the fourth-formers with
satisfactory level of reading abilities are able to understand the essence of the text, certain indicated
objects, their causes, expediency and to explain the meaning of simple expressions. The most
important thing for the creators of tests is being able to formulate appropriate tasks comprising the text
essence, entirety/details, points of view/attitudes, nature of the text and linguistic expression.
4. CONCLUSIONS

1. Text is a coherent literary creation, which has the meaning, is oriented towards the addressee, transfers information and makes impact. In the process of education text is used as the didactic material and pupils’ high quality text apprehension abilities can be achieved easier, when the text is being analyzed with the help of methods and forms of work that correspond to the level of pupils’ apprehension. During the process of education it is useful to vary forms of work according to the nature of the text being analyzed and so that pupils were not bored with them and the process of learning was diverse, meaningful, useful and topical. In order to develop pupils’ qualitative text apprehension abilities it is necessary to dispose pupils for reading by actualizing their experience → to allow pupils to read the text silently in order to get familiar with it → to teach pupils to understand the text by accomplishing various tasks that require text analysis and interpretation.

2. Standardized tasks, which test the satisfactory level of fourth-formers’ text apprehension abilities should be rather easy (the index of complexity should be higher than 60 percent) and should belong to the group of good and very good resolution, that is, distinguishing pupils, who have accomplished the test best and worse. Statistical research data analysis has shown that the tasks that require defining the theme of the text, when the content of the text is easily understandable; to find explicitly stated information, what confirms comprehension of the text; to associate information according to the example or with the given propositions; to express his/her own experience-based opinion; to make direct conclusions related to the text; to distinguish the nature of the text; to pick certain objects out of the text and to explain the meaning of simple expressions, which are used not only in the text, but also in real life, should be used in order to establish the satisfactory level of pupils’ reading achievements.

REFERENCES


THE ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN HIGHER EDUCATION IN LATVIA: QUALITY AND AVAILABILITY

Daina Vasilevska
University of Latvia, Faculty of Education, Psychology and Art
19 Raina Blvd., LV-1586, Riga, Latvia

Abstract

For a modern society it is common to have a new point of view about education, which changes functional role of system of education and makes it an integrative social institution. The process of globalization in all spheres of public life makes implementation of the task of continuing education of the population a necessity. Latvia’s Education Development Program for 2007 - 2013 periods provides for "the introduction of new educational technologies and principles of the educational process to ensure effective implementation of new educational models, long - life education, including the use of modern information and communication technologies." Modern distance education technologies offer real prospects for improving the quality of knowledge and efficiency of the educational process, to address various social issues related to the functioning of the education system. Development of distance education requires a special scientific investigation in two keys, interrelated problems of higher education - social accessibility and quality.

Key words: higher education, distance education, quality criteria, accessibility.

1. INTRODUCTION

The end of the 20th century and the beginning of the 21st century are characterized by intense processes of integration in the global educational space. This trend is becoming one of the basic categories of modern pedagogy. It is developing in individual countries and at regional and global levels alike. Integration in education is part of the complex process of rapprochement and cooperation between national educational structures, leading to the formation of a single global educational space. The single global educational space is a complex, multilevel process of closely related quantitative and qualitative changes, which are based on the unity of approaches, educational content, terminology, categories and standards, as well as summarization of findings. At the same time, it is the result of a long historical and economic coexistence and interaction of the global educational community. This formation leads to the enrichment of each and every one who becomes involved in the systemic educational interaction and to the emergence of new integrative qualities of the system as a whole (Carnoy, 2005).

Creating a system of education relevant to the modern image of the world and capable to prepare the population of the planet for living in these conditions is one of the most fundamental and pressing problems of society where the development and improvement of methods and tools of modern information and communication technologies (ICT) create viable opportunities for their use in the system of education (Carnoy, 2005). These are the technologies on which the society pins its real hopes for the establishment of an open distance education system, which would not only enable each
and every person to choose their educational tactics, but also allow each and every educational space at national or regional level to actually interact with others and bring such cooperation to the global level (Rowntree, 1996).

To gain insight into the high expectations at European level, we will provide an extract from the European Community Memorandum on the areas where the introduction of distance education can play an important role and on the expected effect thereof:

- extending opportunities of access to and participation in education and training at all levels;
- strengthening the education and training infrastructure of lessfavoured regions and of remote areas by extending the range of training available in local institutions and directly to individuals and groups;
- creating trans-European networks for training and hence creating a greater cohesion of the European education and training systems for exchange in the field of open distance learning;
- providing continuing education and training for the workforce;
- improving the quality of training programmes through the incorporation of external high quality inputs and by utilizing multimedia competence;
- consolidating partnerships in training both within and between Member States and between institutions and industry;
- supporting the reconversion and innovation of education and training in the countries of Central and Eastern Europe;
- delivering advanced training and disseminating the results of research;
- making available a European dimension in the education and training of those who do not have the opportunity to spend a period of study abroad and in particular providing such a dimension in the in-service training of teachers. (Skujina, 1996)

Latvia’s Sustainable Development Strategy 2030 includes a recommendation for universities to establish training programmes that are fully implemented on the basis of distant education.

Distance education is a reality of modern life. By “distance education” the author first of all means an efficient technology for providing a set of quality educational services. It is in this context that distance education should be considered as an important factor in the modernization of the present-day higher education in Latvia.

Given the great interest in the use of distance education in Latvia at all levels, from secondary school to higher education, the objective of this study is:

1. To describe the dynamics of the development of distance learning in Latvia.
2. To offer a set of assessment principles for the quality of distance education in Latvia as one of the most important factors influencing the improvement of human resources and ensuring equal opportunities for all social strata.
3. To determine the principal conditions for Latvia’s entry into the single global educational space.
Information sources for carrying out the analysis include the study of activities of educational institutions. Resources of the global information network Internet have been used during the research as well.

Research methods. A range of methods have been used to reach the objective and solve the tasks set: theoretical methods of research (inductive and deductive methods, analysis and synthesis, comparison, contrast and generalization, abstraction and concretization, analogy and modelling) and empirical methods (study and generalization of documents and activities, as well as teaching experience of educational institutions).

2. RESULTS

The School of Business Administration Turība was the first institution of higher education in Latvia to provide an opportunity for students to study through distance education as far back as in 1999. Currently, distance education in Latvia is offered by 5 universities, 10 institutions of higher education and 3 colleges. One of the private colleges offers training through distance education only. According to provisional data, about 10% of all off-site students pursue distance education courses in Latvia today. Data of the Central Statistical Bureau of Latvia shows that there were 32,412 off-site students in the academic year 2010/2011 (CSB, IZG27, 2011). This figure indicates that the system of distance education is not particularly popular in Latvia, and this happens for several reasons.

First of all, using only one form of communication of knowledge through the Internet is not always optimal. For example, 75% of those who pursue courses through the Internet in the U.S. eventually drop out. There are many complex issues concerning the compatibility of ICT with human psychology, ease of use and so on. It is usually believed that the Internet is a very simple technology, which does not require almost anything from the user, except for the presence of a computer and network access. However, the situation is more complex. There is a need for a “humanized” form of contact with the teacher, the ability to combine information and so on. There is also a need for motivation to acquire knowledge, which arises during communication with teachers, etc. (Badrul, 1997).

Distance education is not only a technological innovation, but also a social innovation which includes the efficiency of the educational process. What are the most important social functions of this type of training? Above all things is the enhancement of each and every person’s opportunity to choose the most appropriate forms of exercising the constitutional right to a quality education in view of living conditions, psychophysiological characteristics and social status. The introduction of ICT is a response to the need of the modern civilization for the mass and continuing education and for improvement of its quality level due to the growing requirements towards the consumer and the producer of material and spiritual values. These days, not only the commonality of language, but also the single principle of organizing the information infrastructure of society is crucial for preservation of the nation as a whole. This is an important argument in favour of the introduction of ICT in the educational processes at all levels and by any means possible, as an individual and a citizen thereby establishes new communication channels with the society and the state, regardless of where he or she lives (Shailendra, 2005).

For Latvia, which is characterized by uneven regional economic development and low income levels of the population, the introduction of distance education is particularly important. For objective reasons, a large proportion of the people living in this country do not have equal opportunity to complete secondary education, let alone to obtain higher education, as declared in the Constitution.
There is no alternative to ICT in solving this problem. The two fundamental principles advocated by UNESCO: “Education for All” and “Learning throughout Life” are now complemented by the third principle: “Education at the Place of Residence”, which is essentially impossible without reliance on the information and communication technologies (UNESCO, 2002).

Distance education will have a positive impact on solving a whole range of socio-economic problems in various regions of Latvia. Education of the population, provision of the opportunity to pursue higher education and thus optimization of professional activities naturally lead to the elimination of the periphery’s lagging behind the metropolitan centre.

Development of distance education is also associated with changing the way of viewing education as an invariable system. A paradigm shift is happening in science in general and in the education system in particular. This is a difficult process, but it is essential for the development of the society based on new principles. In these circumstances, it is distance education that contributes to the dissemination of ideas of democracy and the assertion of the spirit of freedom.

The application of new learning technologies is based on the totality of psychological, pedagogical and social knowledge, while implementation of various techniques and training programmes promotes the normal competition between and among various forms of organization of the educational process (Dede, 1995).

Distance education reinforces the importance of individual approach to the student. Students acquire knowledge and skills through a variety of individual forms of learning – from self-study of subjects using specially designed training aids and deepening their knowledge through educational computer software to different types of active workshops (business and operating games, discussions, etc.). In this regard, the expansion of the range of educational opportunities for an individual is becoming notable (Dede, 1995). Distance education gives him or her fundamentally new options, providing not only an increased amount of information, but also acquisition of new skills and abilities. Among them is the ability to freely navigate today’s databases, interact with members of the academic staff in order to achieve common and socially significant results and increase the level of intellectual development.

3. QUALITY CRITERIA FOR DISTANCE EDUCATION

Quality standards in the national education system are designed taking into account the experience of universities that implement this system of education. Needless to say that the quality of any product, including services in the sphere education, must be controlled. Suppose the control checks are held once a year. The question is, will the quality improve if it is monitored once a semester or if a special commission conducts checks once a month? This is unlikely. The quality either is or isn’t: there is no in-between. Rector of a reputable state or private university is entrusted with a large amount of resources, such as buildings, structures, computers, laboratory equipment, salaries and so on. Rector of a state university is accountable for his or her activities to the state, while rector of a private university is personally liable as well. Therefore, we must recognize that a university itself, provided it is accredited, is capable of controlling the quality.

Taking into consideration the prospects for distance education and the results of the study, the author has developed quality criteria for distance learning based on the higher education quality assurance system, which operates in accordance with the ENQA Standards and Guidelines for Quality Assurance in the European Higher Education Area adopted during the Meeting of European Ministers of Education held in Bergen on 19th-20th May 2005 and State Cabinet Regulations No. 821 on
Accreditation Procedures for Universities, Colleges and Higher Education Programmes adopted on 3rd October 2006.

The author believes that distance education could significantly improve access to higher education for secondary school graduates from the provinces. The distance education quality criteria developed by the author are included in the Methodology for Assessing the Activities and Quality of Implementation of Educational Programmes in Educational Institutions and Examination Centres, which has been designed in accordance with State Cabinet Regulations No. 852 on Procedures for Accreditation of General and Professional Education Programmes, Educational Institutions and Examination Centres of 14th September 2010 and adopted on 24th May 2011.

Table 1 AREA 1. STUDY CONTENTS AND ORGANIZATION

<table>
<thead>
<tr>
<th>Criterion 1. Study Programmes Implemented by the Educational Institution</th>
<th>satisfactory</th>
<th>good</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Study programme in the form of distance education (via technical and/or electronic means of communication) is implemented in accordance with the university’s regulations.</td>
<td></td>
<td>• Study programme in the form of distance education (via technical and/or electronic means of communication) is implemented in accordance with the university’s regulations.</td>
</tr>
<tr>
<td>• Teachers plan the sequence of learning the study contents according to the specific features of distance education, ensuring compliance with requirements of the course standards. A relevant implementation methodology has been designed.</td>
<td></td>
<td>• Teachers plan the sequence of learning the study contents according to the specific features of distance education, ensuring compliance with requirements of the course standards and the intradisciplinary link. A relevant implementation methodology has been designed for the scope of the whole study programme.</td>
</tr>
<tr>
<td>• There is a schedule for review sessions on-site and off-site (via e-mail and Skype).</td>
<td></td>
<td>A schedule for review sessions on-site and off-site (via e-mail and Skype) has been drafted for the whole academic year.</td>
</tr>
</tbody>
</table>

Table 2 AREA 2. STUDIES AND ASSESSMENT OF KNOWLEDGE

<table>
<thead>
<tr>
<th>Criterion 2.1. Quality of Studies</th>
<th>satisfactory</th>
<th>good</th>
</tr>
</thead>
<tbody>
<tr>
<td>• During the process of studies teachers use teaching methods that meet the principles of distance education.</td>
<td></td>
<td>• During the process of studies teachers use a variety of teaching methods that meet the principles of distance education. Self-assessment methods (tests and pass-fail tests) have been planned for each theme of study.</td>
</tr>
<tr>
<td>• Study materials in electronic form have been designed.</td>
<td></td>
<td>• Electronic learning environment provides access to supplementary literature and links to sources of information.</td>
</tr>
<tr>
<td>• Electronic learning environment provides access to supplementary literature and links to sources of information.</td>
<td></td>
<td>• Study materials in electronic form have been designed according to the programme. Study materials in printed form are available in the library. Video materials and video lectures are available too. Study materials are regularly updated and supplemented (if necessary or if required by the specific character of the subject).</td>
</tr>
<tr>
<td>• Tests and practical assignments for self-control have been designed.</td>
<td></td>
<td>• Virtual practical assignments can be performed during the study process.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Tests (for intermediate control and final assessment), laboratory assignments and practical assignments for self-control have been designed.</td>
</tr>
</tbody>
</table>
### Table 3  Criterion 2.2. Quality of Learning

<table>
<thead>
<tr>
<th>satisfactory</th>
<th>good</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information on requirements laid down for the studies is available in the e-environment.</td>
<td>Information on requirements laid down for the studies is available in the e-environment.</td>
</tr>
<tr>
<td>Feedback from the students is enabled. Students have the opportunity to express their views and ask questions, using electronic means of communication.</td>
<td>Feedback from the students is enabled. Students have the opportunity to express their views, ask questions and hold discussions, using electronic means of communication.</td>
</tr>
<tr>
<td>Students are given the opportunity to interact via e-mail and Skype.</td>
<td>The information exchange system between and among students, teachers and administration has been established.</td>
</tr>
<tr>
<td>Students may contact their teachers at certain times.</td>
<td>Students are clearly informed of the ways to communicate with teachers; the necessary support can be received from teachers during the learning process.</td>
</tr>
<tr>
<td>The university monitors the regular fulfilment of the study plan (via pass-fail tests).</td>
<td>Students have the opportunity to visit on-site group sessions, review sessions and individual on-site review sessions.</td>
</tr>
<tr>
<td></td>
<td>Students are given the opportunity to interact via e-mail and Skype.</td>
</tr>
<tr>
<td></td>
<td>The information exchange system between and among students, teachers and administration has been established.</td>
</tr>
<tr>
<td></td>
<td>The university encourages students’ interaction through a variety of options, such as Affinity Groups on the university’s website, electronic discussion forums, etc.</td>
</tr>
<tr>
<td></td>
<td>The university analyzes the e-environment visit frequency by the students and monitors the regular fulfillment of the study plan (via pass-fail tests).</td>
</tr>
</tbody>
</table>

### Table 4  Criterion 2.3. Assessment as Part of the Process of Studies

#### 2.3.1. Assessment Methods and Assessment Quality

<table>
<thead>
<tr>
<th>satisfactory</th>
<th>good</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment essentially corresponds to the specific character of distance education.</td>
<td>Assessment forms and methods correspond to the specific character of the study course and distance education.</td>
</tr>
<tr>
<td>The university has developed procedures for assessing the students’ progress that corresponds to the specific character of distance education.</td>
<td>The university has developed procedures for assessing the students’ progress that corresponds to the specific character of distance education. Students know and understand the assessment procedures for all study subjects and this information is available in the university’s e-environment.</td>
</tr>
<tr>
<td>Summary of the students’ progress records is available in the e-environment.</td>
<td>Students are provided with electronic access to the assessed assignments and error analysis.</td>
</tr>
<tr>
<td></td>
<td>Summary of the students’ progress records is available in the e-environment and the students’ progress records are organized as required.</td>
</tr>
</tbody>
</table>
Table 5 AREA 3. SUPPORT FOR STUDENTS
Criterion 3.1. Psychological Support

<table>
<thead>
<tr>
<th>satisfactory</th>
<th>good</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Organizational support in electronic form (text messages, e-mails, etc.) is provided.</td>
<td>• Organizational support in electronic form (text messages, e-mails, etc.) is provided. Electronic communication feedback is enabled.</td>
</tr>
<tr>
<td>• Students are provided with support in solving technical issues.</td>
<td>• Students are provided with support in solving technical issues throughout the whole process of studies. Information on how to reach the technical support staff is available in the e-environment.</td>
</tr>
</tbody>
</table>

Table 6 Criterion 3.2. Support for Personality Development

<table>
<thead>
<tr>
<th>satisfactory</th>
<th>good</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Self-management function is provided at the university (affinity group forums in the university’s e-environment).</td>
<td>• Self-management function is provided at the university (affinity group forums in the university’s e-environment).</td>
</tr>
<tr>
<td></td>
<td>• The university provides support to students, subject to their individual needs and abilities.</td>
</tr>
</tbody>
</table>

Table 7 Criterion 3.3. Support for Career Education

3.3.1. Information on the study programmes

3.3.2. Career education organization and related events

<table>
<thead>
<tr>
<th>satisfactory</th>
<th>good</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The university provides advice and support regarding the opportunities for continuing education (if there is a demand from students).</td>
<td>• The university provides advice and support regarding the opportunities for continuing education (if there is a demand from students).</td>
</tr>
<tr>
<td></td>
<td>• The university’s e-environment provides up-to-date information on the implemented the study programmes for potential students.</td>
</tr>
</tbody>
</table>

4. DISCUSSION

Distance education provides significant savings: the student can save on travel expenses, rent and other costs related to finding accommodation closer to the place of studies, which are almost entirely excluded in case of distance education.

Another advantage of distance education is the opportunity to gain knowledge in the time and at the pace suitable for the student and determined by him or her, which could contribute to the student’s gradual integration into the learning process and reduce the number of dropouts immediately after the first year.
Distance education quality assurance would bring this type of study to a wider public attention. Development of distance learning could reduce the negative impact of both material and territorial factors on the accessibility of the higher education for disadvantaged groups and people from villages and small towns. A characteristic feature of villages and small towns lies in the factors which limit access to higher education, such as low income, poor preparation in secondary schools and so on (Vasilevska, 2010).

In this regard, it is important that distance education is not viewed as a “semi-legal addition” to the existing education system and that it has a legal status that is appropriate for its role in the educational process. This is the second reason why distance education is not in particular demand in this country. The question is not about an alternative to the existing forms of education because distance learning does not only organically fit into the sphere of education and its infrastructure, but also acts as an integral component of the education system for both a younger generation and all groups of population without age restrictions. It is already clear that it can contribute to achieving a goal which is socially significant for Latvia: the implementation of lifelong learning. Delay in the legal groundwork for distance learning hinders the achievement of this goal.

5. CONDITIONS FOR LATVIA’S ENTRY INTO THE SINGLE EDUCATIONAL SPACE

The introduction of distance education is an important factor which contributes to the use of new opportunities of high technologies in education and the “export of knowledge”. It is a politically important, socially significant and economically sound fact. It is beneficial for Latvia also because thousands of the country’s citizens are now working abroad. Many of them are not sufficiently proficient in foreign languages to attend university. To help these people not to lose contact with their country and have a good education on their return, it is essential to give them the opportunity to pursue higher education in their native language. It is a known fact that educated people tend to be better performers, no matter where they work.

In the author’s view, it would be advisable to establish an association of universities in Latvia, offering export of education. Export of education services carried out with support from the government will lead not only to economic, but also moral and political benefits and increase the international prestige of this country.

Institutions of higher education that implement distance education are fully capable of self-financing through tuition fees paid by the students. Therefore, the question is not about extra budgetary funds, but about available loans, financial guarantees, etc. However, the students do need financial support from the state, and this support should be provided as tax incentives for educational institutions which make financial investments in the development of distance education. Experience has shown that the introduction of distance education leads to substantial cost savings by reducing the expenses on transport, construction and operation of new buildings, including dormitories, and a whole range of other items.

The continuously pending questions are: Who to teach and how much time can be allocated to teaching? There are countries which have solved these questions fundamentally for themselves. The United States is one of them. This does not mean that all problems are solved there, yet the goal has been defined. In the circumstances of knowledge-driven economy, training should be provided to as many people as possible, as intellectual work becomes large-scale. For Latvia, the introduction of comprehensive higher education lies ahead as a promising strategic national goal. The use of ICT in education will help in solving this problem (Latvia’s Sustainable Development Strategy 2030).
The modern labour market imposes relatively high requirements on training of professionals. There is a growing demand for specialists with a wide range of both professional and personal competencies. These are communicativeness, professionalism, ability to plan one’s activities, analytical skills and computer literacy. Most of the above competencies refer to general cultural level, which is determined by higher education and distance learning in particular.

It should be noted that distance education based on ICT, while being an important factor in modernization, is associated with a number of difficulties that impede its use. Among them, for example, is the high cost of teaching aids and latest technologies: not every university can purchase them. Insufficient computer literacy of a large proportion of teachers and students is by no means unimportant. Undoubtedly, the future of education lies in the use of information technology. These data confirm that the introduction of distance education facilitates the students’ access to new knowledge and more advanced training materials, provides training regardless of their remoteness from the educational institution and helps individualize the learning process. Therefore, in conjunction with other forms of education it promotes quality growth of the intellectual potential of students. Distance education is becoming an important part of the process related to improving the entire education sector in this country.

REFERENCES


THE ACTUALITY OF BIBLICAL FUNDAMENTS
FOR A RELIGIOUS EDUCATION IN FAMILY

Cătălin Vatamanu
Faculty of Orthodox Theology in Iași, 9, Cloșca Street, Iași 700066, Romania

Abstract

An integrative education involves, besides the moral, intellectual and aesthetic, a religious component. The religious education in the family gives an axiological content to the education, generally. Therefore, an evaluation of the relation between tradition and modernity in education within the family should not be placed exclusively in antagonistic terms. Faced with the phenomenon of secularization, the family nowadays must find a middle way, that state of equilibrium between past and future, living side by side the authentic (traditional) and the new (modern). Without fearing that under present conditions a recourse to the biblical tradition could mean a sterile imitation of a certain type of education from Old Testament’s time, it is important to realize that a willingness to know the traditional education is required for today’s education, is the first step towards a genuine dialogue of cultures.

Keywords: biblical Education, Interculturality, Strategy for Education, Vocation of the Family, religious symbols, catechesis, traditions, biblical punishment.

1. FOREWORD

Education is, starting with Christian Antiquity, one of the most important fields of pastoral activity of the Church, which manifests not only on a religious level, but also on the cultural or social. Already consecrated a slogan, the statement “The world of tomorrow depends on the education today”, contains a great truth: the educative process cannot be reduced to a mere transmission of knowledge because through education persons and characters must be shaped and they have to be prepared for integration in social life, it has to favour psychological, intellectual, cultural, moral, and spiritual maturation.

By analyzing the older cultures, as for example the Chinese, Hindus, Persian or Egyptian, we may note that the development of education is closely connected with the ethnic, cultural, and social character of a people, with its geographical location, but it also springs from religious belief. In most of these cultures, family was the favourite milieu for the propagation of an educational system. Education within the family was centred on the relationships between parents and children, husband and wife, brothers and sisters.

Today, more than ever, religious education is of great importance. The responsibility in this respect belongs to the family, but also to the society, lay and ecclesiastic. From the perspective of the Church, religious education is not an option but a divine commandment, entrusted by special mandate: “Go ye therefore, and teach all nations, baptizing them in the name of the Father, and of the Son, and of the Holy Ghost: Teaching them to observe all things whatsoever I have commanded you” (Matthew 28, 19-20).
The preoccupation for the divine message, be it oral or written, is present especially at the people of Israel, and if we were to exemplify this on the small age category it would be enough to mention the fact that the little Israelis had to copy and recite fragments from the Hebrew Scripture. Due to their special respect for the sacred text, the Jews have maintained, through time, their national, cultural, linguistic, and educational distinction. The entire Israeli education is considered to be religious because the purpose of life was a just living and the honouring of God. In fact, what distinguishes the Hebrew culture from the other cultures of the Ancient Near East is the fact that at the centre of Hebrew education is a personal God Who reveals directly to the chosen people, His Providence acts in its history, He communicates His will through the prophets and transmits the principles of living for sainthood through hagiographic writings.

The assuming of the responsibility of education in the Israeli family belongs to both parents. When the children reached the age when they were capable of learning and understanding, the parents distributed between them the tasks in education: the boy was instructed by the father and the girl by the mother, the children receiving a moral and practical religious education. The strict adherence to an educative system based on a religious and moral ideal and its transmission from generation to generation within the family maintained their unity in such a way that no political system could do it. We may say that the motto of the Israeli family was “Train up a child in the way he should go: and when he is old, he will not depart from it” (Prov. 22:6).

The existence of schools in monarchic and pre-exile Israel is, regardless of various arguments, hard to prove. The specific aspect of Hebrew education is the fact that it contains the words communicated by Yahweh through the prophets. Education in biblical Israel aimed at knowledge regarding reading, writing, history, hygiene, music, and agriculture. During the exile and after the Babylonian exile, the educative role is taken by the Synagogue. The teaching-acquiring method was mainly oral, with a strong emphasis on memorization and recitation, an important role being played by dialogue. An important facet of the Israeli education pertained to the practical character of learning so that every young man had the duty to contribute to the economical welfare of the family, learn a profession, and make a family which to support on his own.

2. THE VOCATION OF THE FAMILY AS ECCLESIA MINOR AND ECCLESIA DOMESTICA

Human culture is unconceivable without the most important three social institutions: the Family, the School, and the Church. These reflect and reproduce the particularities of social development and are in a continual feed-back relationship, however distinguishing themselves radically by the possibilities and the specific regarding reaction to social interventions. If education in School may be reformed according to certain strategies elaborated on a macro-structural level, family cannot be restructured on order through directives. The globalizing processes, which affect all fields of life, lead to essential changes in the structure and function of the social institutions, including School and family. Today the family is demanded to give concrete and adequate answers to the challenges of the time regarding adaptability, cohesion, creativity, competence, efficiency in organizing family life and children’s education. The first religious truths which the human being encounters are those acquired during childhood, within the family. The family offers the child to the Church, through Baptism, and it also gives the first elements regarding Christian belief. The mysteries of faith are presented to the child rather intuitively, practically than theoretically. Thus, the children will understand the concept of “faith” if the parents will pray; will understand what “hope” is if the parents live with the hope and the awareness of God’s protection; will understand what “Christian love” is if the parents will love each other; will understand “humility” if the parents will show humility and temperance; will understand
the concept of “charity” only if the parents will have the virtue of charity. Even if they will not be able to define them, these religious concepts will be integrant part of children’s lives and they will be shaped in the spirit of faith and love for God.

Even if the traditional pedagogical methods play an important role in the evolution of education, in the context of a society which is in a continuous changing process and of the modification of the status of faith on the axiological scale of teenagers, the Church adapts the religious education to the new missionary-pastoral demands.

Certain aspects of the nowadays religious education prove the dynamic actuality of the biblical fundamentals which have established the strong instructive-educative principles of the Old Testament. These are:

- Within the family, the child receives the first religious teachings. The reading of biblical text with moralizing role together with morning and evening prayer, prayers before and after meals, catechetical discussions (question-answer) represent important steps in becoming aware of belonging to a certain religious group. Individual prayer and participation in holy services, at the parents’ suggestion or together with them, constitute for the child “entering” the liturgical life of the Church.

- Participating in household chores, according to age, competence, and physical possibilities, may have an educative character.

- Physical punishment (beating) is not a positive method of education.

- Religious education within the Church is focused on participation in cult, the transmission on Christian values through catechesis.

- The priest has the responsibility of involving in children’s religious education.

- Pilgrimages and participation in holidays constitutes, for the family, a good opportunity for education.

- The presence of Religion as study subject in school is a strict necessity.

- The appropriate method for acquiring the teachings of faith oscillates between conservatism and modernism.

- Christian values have a cultural-didactic role.

- The phenomenon of secularization represents a major danger for the maintaining of religious identity.

- Religious education constitutes today the fundament for an intercultural and interconfessional dialogue.

Viewed from double perspective, biblical and modern, the approach on the thematic regarding religious education will consequently try to establish to what extent the family involves in the educative act.

The sapiential writings of the Old Testament present the making of a family as the purpose of man’s life. The first commandment given to man in Heaven was that of the perpetuation of the human species and of dominating the earth (Gen. 1:28). In the culture of the old Israel, the child was God’s creation and gift of His charity (Gen. 29:32, 33:5, 1 Sam. 1:20.27, Ps. 127:3). The children are regarded as crown and meaning of life; they offer assurance and strength to the entire family (Prov.
17:6; Ps. 127:3-5; 128:3; Job 5:25; Sir. 25:10). The presence of numerous children is often associated with blessing and is an essential component of divine promises. (cf. Gen. 15:5; 22:17; 24:60; 26:4).

In a society in which the number of those who do not want to have a family increases, education becomes more difficult. If these cases stem from personal situations, most of the times exceptions, they deserve understanding, love, and solidarity. But there is no way of presenting the failure of the institution of the family as a new model of social life. The anti-family or anti-birth politics of these days aim only at destructing the social nucleus of the family and the instauration of self-sufficiency as model of life.

Cradle of life and love, family is an icon of the Church; it is “the small Church” (ecclesia minor) and the “household Church” (ecclesia domestica). At the same time, it is a source of culture. It is the school where the future husband and wife learn the best how to become responsible parents. During the last years, there has been an acute necessity of a redefinition and efficientization of the influence of the family, the oldest social institution on pedagogical, anthropological, sociological, and religious levels. The capacity of the family of receiving, working out and transmitting the signification of events and phenomena from daily experience of its members, places the family in a special situation, that of actor-subject of knowledge and practice at the same time and also of agent-object exposed to exterior actions and interventions, including those with educative and partnership character.

3. ACTIVITIES WHICH CHARACTERIZE RELIGIOUS EDUCATION WITHIN THE FAMILY. THE ACTUALITY OF BIBLICAL FUNDAMENTS

- As anytime in the history of human society, the parents have the responsibility of assuring the child’s safety, by fulfilling the fundamental conditions of biological, moral or religious life. After the child’s birth, the mother is the one who takes care of his upbringing which includes, from a cognitive point of view, the primary information regarding daily life. Although the Old Testament does not describe in detail what such an instruction consisted of, from the textual information regarding birth, breast feeding, and the first stages of the infant’s childhood, we may only infer certain notions which do not have a general character. The fact that the mother protects and takes care of the child has always been viewed as natural. That is why the question addressed by Isaiah (49:15a) cannot be but rhetorical: “Can a woman forget sucking child (lit. the child she is breast-feeding), that she should not have compassion on the son of her womb?”

- Within the family, the child receives the basis of the teaching of faith.

In the Old Testament, for example, Anne’s involvement in Samuel’s education is scarce in detail, although the text I Sam 1:22-28 refers mainly to the period of time when the child was under his mother’s care. At least until the age of 3-5, Samuel was raised by his mother as she found appropriate (v. 23a): „« Do what seemeth thee good; tarry until thou have weaned him; only the Lord establishes his word. So the woman abode, and gave her son suck until she weaned him”. Anne’s promise to offer her son to God and the fulfilling of this promise show that the imperative “do good!” is concretized in an education with religious character and in the fulfilling of a cultic vocation. In this respect, at the decided age, the mother brings the child “before God” and transfers the responsibility for education to the priest Eli (I Sam 1:25-28, 2:11). But Anne’s care for her son does not end in this moment: she visited him every year (maybe even more often), when she would bring to the child the meil made by herself.
Even if belonging to the New Testament, the text 2 Tim. 1:5 presents the role which the women (the mother and the grandmother) had in Timothy’s upbringing: “When I call to remembrance the unfeigned faith that is in thee, which dwelt first in thy grandmother Lois, and thy mother Eunice; and I am persuaded that in thee also”. Consequently, we may say that these persons contributed, first of all, to Timothy’s moral-religious education.

- Especially in old Israel, the members of the family had the duty of transmitting the revealed truth to their followers because Yahweh gave is laws to be respected and maintained as sign of an eternal covenant. That is why, most of the texts of the First Testament spurs the parents towards talking to their children all the time about the good that God did for His chosen people (Exodus 10:2; Gen. 18:19; Exodus 12:26-27a; Exodus 13:8.14; Deut. 4:9; 6:7.20-21a; 11:19; Ps. 44:2; 78:2-7; 145:4; Ioil 1:3).

- Theological discussion of the “catechesis” type, have an important role in the Old Testament. The Babylonian tract Sukka shows that “when a child understands what it is said to him, his father has to teach him Torah and the Schema writings (1930). The most relevant text regarding the religious character of family education is Deut. 6:20-25, identified by biblical exegetes as being a “catechesis model”, a classic Old Testament text for exemplifying the structure of the question-answer teaching: „And when thy son asketh thee in time to come, saying, What mean the testimonies, and the statutes, and the judgments, which the Lord our God hath commanded you? Then thou shalt say unto thy son, We were Pharaoh's bondmen in Egypt; and the Lord brought us out of Egypt with a mighty hand: And the Lord shewed signs and wonders, great and sore, upon Egypt, upon Pharaoh, and upon all his household, before our eyes: And he brought us out from thence, that he might bring us in, to give us the land which he sware unto our fathers. And the Lord commanded us to do all these statutes, to fear the Lord our God, for our good always, that he might preserve us alive, as it is at this day. And it shall be our righteousness, if we observe to do all these commandments before the Lord our God, as he hath commanded us.”. Other parallel texts are to be found at: Exodus 12:26-27; 13:14; Joshua 4:6b-7; 4:21-22.

The “catechesis models” want to awaken the interest of the younger generation in knowing the wonderful acts of Yahweh in the history of His chosen people and call to attention the older generations regarding the responsibility of answering the younger’s questions, in other words, on the whole, the responsibility of education. The national disaster led to a real disinterest in transmitting faith, instruction becoming in totality the parents’ duty. Such a way of transmitting the teachings is understandable in Deuteronomy, in the political context of the approaching exile or, more precisely, of the existing social and political narrowing. In this text we may recognize the idea of the national God, Yahweh, Who remains the One and the Unique (2004). Catechesis has this role: that of awakening from indolence.

The two parts of the “catechesis”, the historical part of the slavery and liberation from Egypt and then the receiving of the Law as a proof of the filial relationship between Israel and Yahweh, have only one purpose: entering the country promised by Yahweh to their parents. The 1d testament “catechesis” is consequently comprised of some important theological aspects: the awareness of the existence of an unique God, the duty of reminding God’s acts to contemporaries, the duty of transmitting the tradition to the next generation, the founding of obedience on historical experience, not as an individual experience, but from the collective memory.

- The presence of religious symbols in the household. In the Judaic antiquity, the words of God had to be “planted” in the son’s mind in any moment of the day and in any circumstance: when you sit,
when you walk, when you go to bed, when you wake up. A sign of transmitting and respecting these words was the wearing of **tefilim** and the hanging of those **mezuzot** at the door. It was the father’s responsibility to do this, as it is shown by the text Deut. 6:6-9: **“And these words, which I command thee this day, shall be in thine heart: And thou shalt teach them diligently unto thy children, and shalt talk of them when thou sittest in thine house, and when thou walkest by the way, and when thou liest down, and when thou risest up. And thou shalt bind them for a sign upon thine hand, and they shall be as frontlets between thine eyes. And thou shalt write them upon the posts of thy house, and on thy gates.”**

- **Maintaining cultural and religious traditions.** Within the enlarged family, the child would receive not only a general education, be it practical, ethical, or religious, but he was also taught concrete aspects of Israeli life. Among these, the presentation of national traditions had an important role because the cult had also an educational character. Especially during holidays, the children played an active role in the family by asking questions (Exodus 10:2; 12:26), which facilitated the possibility of transmitting the religious tradition by learning from generation to generation. Besides the communication of historical information and of its signification, the parents had the duty to tell the children and grandchildren the religious experience of their forefathers.

- One of the father’s duties towards his sons was that of reminding them moments form the **history of salvation of the people of Israel and the laws** that Yahweh, the unique God, gave it in a pedagogical manner. The people of Israel are born in the exile as people of Yahweh and Yahweh reveals to it as the only and unique God. This is the anamnetic function of the history of Israel: that of always reminding the events of salvation not as liberation by its own powers, but as a sign of the special choice, of Yahweh’s sovereignty over the gods of the other pagan people, of His manifestation as Lord of history. The remarkable fact of the physical and spiritual liberation is one of the favourite themes in the son’s education, as the biblical texts show (Exodus 10:2; 12:26-27 13:8.14; Deut. 6:20-24 Ps. 44:2)

- Having reached adolescents and being “on the brink” of marriage, the child needs moral education more than ever. Signs of such an education are mentioned, for instance, in Prov. 31. The mother’s advice has as subject abstinence from alcoholic drinks, a good judgment, and the marriage with a virtuous woman.

If we were to define the educational ideal in the old Israel, then this would be justice and the sainthood of one’s own life by relating to Yahweh’s sainthood. The parents’ advice for their children regarding remembering the sacred history of the election and salvation of Israel, guiding on the way to sainthood through the Decalogue, the calling to serve God, furthering from sin and especially the temptations of the pagan peoples are a categorical appeal to make one’s life sacred. That is why the children must listen, learn the word of God from their parents, apply them, not forget them, and transmit them further to future generations. (Exodus 10:2; 12:26-27, 13:14, Deut 4:9-10, 6:4-9,20-24, 11:18-21, 32:46, Jos 4:6-7.21-22).

- **Communal participation in cult, explanation of rituals and liturgical words.** The text Job 1:5 shows that the father was permanently concerned with what his sons were doing: **“And it was so, when the days of their feasting were gone about, that Job sent and sanctified them, and rose up early in the morning, and offered burnt offerings according to the number of them all: for Job said. It may be that my sons have sinned, and cursed God in their hearts. Thus did Job continually.”**. An extremely important fact, the text confirms the practice of parents’ prayer for their children.
It was the father’s duty to explain the meaning of religious rituals to the family (Exodus 12:26) and to teach God’s commandments (Deut 6:20-25; 32:46). This type of religious education had to be done in any moment of the day and in any circumstance (Deut. 6:7).

- The child’s duty was to offer absolute respect to his/her parents, take care of them in their old age and, above all, honour them in the community, be the living proof of the respecting of God’s Law. The respect for parents appears in the First testament as a divine commandment and that is why the statements often have a legalist character. The Decalogue commandment referring to the honouring of parents is the first from those referring to the relationship between man and his fellow beings and comes immediately after that referring to respecting the Sabbath (Exodus 20:12; Deut. 5:16; Lev. 19:3). But the text which contains most of the advice regarding children’s care and respect for their parents is at Sir. 3:1-16. Parents’ authority within the family is augmented as law of God (v. 2) and that is exactly why children’s obedience equates, on a spiritual plan, the forgiveness of sins. The fruits of this obeisance are the receiving of blessing together with many sons, long life and fulfilment of prayers (v. 5-9). Father’s or mother’s immoral life must not become a model for children (v. 10-11). The respect for parents must exists during one’s entire life and when they reach old age, the child must show understanding for the difficulties related to age because thus “his house will be erected”, regardless of the number of sins (v. 12-14). Honouring and obeying parents were viewed as the proof of wisdom: “A wise son maketh a glad father: but a foolish man despiseth his mother” (Prov. 15:20).

The same activities as the ones in the biblical period of the Old Testament, characterize religious education within the family today. This shows that in the family the child has always received the fundamentals of a religious education. The main forms of religious education today are going to Church and individual prayer. These two are also the most frequent and accessible activities in any family. An important role in familial religious education should be played by religious reading (reading of the biblical stories from the Holy Scripture, the Bible for children which contains illustrations, being more accessible), together with religious discussions with the parents (catechesis), learning religious songs, cultural-religious programs on TV and radio, and ethical education. Charity is the lesson of the love for one’s neighbour which the parents must teach their children on any occasion. In the case of school children, participating in the Holy Liturgy, fast, and pilgrimages may spur the child towards love for what is sacred. In all these desiderates, the adults must be ethical models for children. As the birthday or the name’s day, celebrating the Baptism day may be a good opportunity for a child to remember the day when he/she became a Christian.

4. ASPECTS OF BIBLICAL RELIGIOUS EDUCATION IN THE DIALECTICS OF THE MODERN SPIRIT

4.1. May physical activities within the household have educative and even religious value?

The fact that a child participates in the household activities of the family, according to age, competence, and physical possibilities, is viewed today as having an educative character. In pedagogy and child psychology studies it has always been shown that physical activities within the household have a great educative value. There are though big differences regarding the appreciation of household activities as having little or no value and this explains through the difference in education in the family some children being constructively involved in the family without mistaking this with child’s exploitation by labour. Be it that this involvement implies physical activities of a certain complexity degree or they are just simple “tasks” in the household, the discussion launched by modern pedagogy
is directed towards the educational role of the activity in one’s own house and, respectively, the brutal act of the physical exploitation of the child as “labour force”.

Generally, work activities include all forms of productive activities, regardless of their being materially rewarded or not. They are the ones which assure goods or services, knowledge or ideas, contributing thus to the development of a person or of a community. This fact leads to a psychic equilibrium which in its turn produces an increased self esteem with positive effects on the individual. The intellectual and physical development of the child must be combined. That is why, the application of certain methods in the unreeling of the activities may be defined as occupational therapy. Peggy L. Denton proposes a detailed classification of the main areas in occupational therapy: stimulation of responsibility in various life situations; the shaping up of skills of self-care and personal hygiene; the cultivation of work skills; organization of games and entertainment activities; the shaping up of a self image and the stimulation of self trust; cultivation of self control and personal expressivity; education of cognitive capacities; education of the capacity of reaction to various life situations; training of the neuromuscular function; training of the sensorial integration; support of interpersonal relations; education of action capacity, according to the environment constraints and resources (1987).

It has already been medically proved that the work with tools helps the superior limbs and contributes to the progress of individual coordination capacities leading to a good integration in the life medium. The “work” culture brings deep changes in the vision of free time and cultural activities and that is why it may be viewed as one of the means of fulfilling the wish of self - accomplishment.

On the other hand, economic abuse is a frequent form in some families in which the child is forced to carry on activities which produce income. Their daily obligations in the household include activities like: cleaning up, cooking, feeding the animals, cleaning the stables, taking care of younger siblings, various agrarian activities, milking, wood cutting etc. As regards the children of the Romani ethnic group, their situation becomes alarming. Traditionally, they are involved in various income producing activities. Within these communities, children often work in the household and participate, together with the parents, in agrarian activities, producing and selling of goods, collection of recyclable materials, charring in markets, building or on the street (begging, car washing etc.). The number of work hours varies between 4 and 10 hours daily. The working conditions are dreadful and there is the risk of accidents and involving in illegal activities (prostitution, drug dealing). The children’s work on the street is viewed both by parents and children as the only alternative for survival. Most of them state that they are not forced to work, but they do it in order to survive.

In the same sphere of negligence is children’s involvement in various household or economic activities which do not allow them to attend school or prepare enough. Regarding the various household activities done by them, the most widely spread is cleaning up to which the other household activities add (washing, cooking, watching younger siblings). On the model of the gender stereotype, the girls are the ones who mainly carry on household activities (sweeping, washing, cooking etc.)

It is true that in the Old Testament the children were seen as a guarantee of family safety and perpetuity. The text from Prov 17:6 is so expressive in this respect, that it does not need any explanation: “Children’s children are the crown of old men; and the glory of children are their fathers.” This is completed by Ps 127:3-5, which show that the sons are a sign of power: „Lo, children are an heritage of the Lord; and the fruit of the womb is his reward. As arrows are in the hand of a mighty man; so are children of the youth. Happy is the man that hath his quiver full of them: they shall not be ashamed, but they shall speak with the enemies in the gate.”
For the Israeli society, the child represented a future labour force, the guarantee of the nation's perpetuity, of respecting and transmitting the divine laws further, and of the mastering of the land received from God. The main income source in Israel was agriculture. Chapters 10-15 from the book of Proverbs insist on the role of work in the family and on the children's duty to help their parents. Tilling the land and breeding animals could be an important source of income for the Israeli family. From a sapiential point of view, it is natural that laziness is discouraged and industry stimulated.

The children had to follow professionally their father and this meant, first of all, teaching, practicing, and transmitting his profession. Even if for the Israeli society the son's instruction at the father's work place was a normality, there are almost no concluding texts in this respect. However, as the mother taught the daughter about chores and daily household activities, the son was instructed by the father in the art of manufacture, land tilling or animal breeding, writing or cult service. Living with his father, the son would watch and help his father in his work and learned his profession. Texts like I Sam. 16:11 and II Kings 4:18 are not quite clear in this respect, but the old eastern tradition and the little information that we have from biblical books confirm the children’s presence near their parents when tilling the land, shepherding or in manufacture workshops. The book of Proverbs insists on the utility of efficient work (Prov. 12:24.27; 14:23; 18:9; 20:13; 22:29; Qoh 9:10; 11:1-6), especially on work in agriculture, the most often mentioned profession (Prov. 12:11; 24:27.30-34; 27:18.23-27; 28:19). Even the young girls grazed the animals or worked in the field together with their family (Gen 29:6.9; Exodus 2:16; Song 1:6-7; Prov 31:16). The girls learned about household activities with their mothers, especially cooking, baking (II Sam 13:8), spinning, and weaving (Exodus 35:25-26).

Proverbs 31:10-31 presents the image of the ideal woman, regarded as a model for girls’ education: “Who can find a virtuous woman? for her price is far above rubies. She seeketh wool, and flax, and worketh willingly with her hands. She riseth also while it is yet night, and giveth meat to her household, and a portion to her maidens. She considereth a field, and buyeth it: with the fruit of her hands she planteth a vineyard. She girdeth her loins with strength, and strengtheneth her arms. She perceiveth that her merchandise is good: her candle goeth not out by night. She layeth her hands to the spindle, and her hands hold the distaff. Strength and honour are her clothing; and she shall rejoice in time to come. She openeth her mouth with wisdom; and in her tongue is the law of kindness. She looketh well to the ways of her household, and eateth not the bread of idleness. Her children arise up, and call her blessed; her husband also, and he praiseth her.”

The model of woman presented in the text above is a person full of virtue (Prov 12:4; 18:22), who offers assurance to her husband because she does only good things all her life. Her household activities are various: she works with wool and hemp (v. 13, 19, 22, 24), cooks and feeds the family (v. 14, 15), manages the household activities in her husband’s absence (v. 15), manages even small businesses (v. 16, 24), tills the land (v. 16), speaks with wisdom (v. 26). All these bring the praise of her sons and husband (v. 28), as well as the appreciation of the community leaders (v. 23, 31). In the Judaic society, to marry such a woman meant “finding wellness” and receiving “a favour of the Lord” (Prov. 18:22). Consequently, the conditions presented are not necessarily normative in choosing a woman for marriage in the entire Israel. Even more, we may say that only the moral qualities and those of “housewife” were sufficient for a “virtuous” woman in the rural area or belonging to the poor population. Fertility, industry, and morality were the basic criteria in choosing a wife and implicitly, the most praised virtues in sapiential writings.

The child, a boy or a girl, had to learn a profession so that to be able, at maturity, to support a family financially in his/her turn. In late Judaism, parents’ responsibility in teaching a profession to the child
was subordinated to the following saying: “Who does not teach his son a profession, teaches him thievery” (Qiddin, 29a).

4.2. Does the physical punishment have a pedagogical character?

Even if we proved the existence of a good pedagogical method within the biblical family, it would not mean that teaching and education were always easy to be done. In case of disobedience, the father was forced to use physical rebuke. The use of the rod as a coercive means in the Old Testament confirms a practice which was often encountered in the Egyptian and Mesopotamian societies.

The education of teenagers was made in strict discipline. The fact that coercion played an important role in this instructive-educative process, is confirmed by the multitude of biblical text which refer to beating as a means of prevention, of “stimulation” towards good deeds or of punishment (Prov. 19:18; 13:24; 22:15; 29:17; 23:13). The father must neither hesitate in rebuking his son nor avoid using the rod because “the rod and reproof give wisdom: but a child left to himself bringeth his mother to shame” (Prov. 29:15). The coercive means used in case of disobedience bring then spiritual peace to the parents and in the future the son will not shame his father in the community in which he lives (Prov. 29:17; 3:12; 23:13-14).

The disciplinary strictness in education does not contradict the parents’ love for their children. On the contrary, Prov 13:24 and Sir 30:1-13 show that an education accompanied by privation and reproof shapes up a strong man who honours his parents. Concretely, the punishing of the child for disobedience was made by eating, often with the help of a rod. Even with a good pedagogical method, teaching and education are not always easy to be done. The teacher is also forced to use the rod (cf. Prov. 23:13; 10:13), which confirms the use of coercion in the schools from Egypt and Mesopotamia.

Notwithstanding the fact that violence is a known phenomenon, it is not easy to reach a satisfying and at the same time consensual definition. In this respect, by referring to the use of force, some characterize it through the consequence of physical damage. Bearing in mind the juridical and socio-institutional variables, others place the emphasis on the violation of norms, especially those referring to legality (2003). The Romanian Encyclopaedic Dictionary defines violence as being “a vice of consent which consists in physical constraint acted on a person in order to make her/him do a certain juridical act” (1966). The well known works by Georges Sorel (2006a), Hannah Arendt (2006b), Charles Tilly (2003) or Julien Freund (1978) underline the following aspects regarding violence: the spreading of the phenomenon and its relativity, modes of approaching and its evolution, its use and finalities, the characteristics of the phenomenon and its explaining factors, the policies for the mediation and prevention of the phenomenon and their efficiency.

Today, the punishment is not accepted as a positive method of education. Nevertheless, although physical punishment is not a method for disciplining the child, it is considered as having a certain educative value, an erroneous view because punishing by beating has but serious consequences on a long term. Even if domestic violence is a phenomenon which has always accompanied the building and the dynamic of the family, it has only recently caught the attention of juridical and social sciences. Only during the last twenty years, have the social sciences and international legal regulations referred to domestic violence. The approach of the domestic violence phenomenon was due mainly to the interest regarding the prevention of child maltreatment.

Among the punishments used in “education”, the most widely spread is the forbidding of some things that please the children. Serious punishments (beating, kneeling, isolation, starving, burning, wall hitting) are, fortunately, more and more rare. Beating is a very common correction modality, many children who come from families where there are problems (alcoholism, violence) being maltreated
Violent behaviour is encounters also between siblings. Many times beating is a form of solving conflicts; not being used to finding arguments, children appeal to physical force. As a “pedagogical” method used in Antiquity and the Middle Ages, corporeal punishment is considered today an abuse and contrary to children’s rights.

The phrase “beating comes from Heaven” should not have today the same “theological” valence as it did in Antiquity or the Middle Ages.

CONCLUSIONS

Religious education offers an axiological content to education. An integrative education implies, besides the moral, intellectual, aesthetic aspects, a religious component (1999). In all fields and activities from the contemporary world, the usual man is assaulted by the huge number of offers, a state which make the choice more and more difficult as each of these options is presented as being the best. The same situation is in the modern educational system. Unconventional schools, conservative systems, even systems which propose the un-schooling (but which, nevertheless, do not reject the need for education), “offer” the best solution (from certain points of view) because of the publicity which each system does for itself.

Modern education is based on traditional educational principles. Many of the pedagogical efforts made by educators from the West start from the premise that man is the result of the educative process. Claude-Adrian Helvetius (1715-1771), denying hereditary inheritance, affirms that “the man is the fruit of the education he receives”. Consequently, education, be it lay or religious, is purely human, secular. Viewed in perspective, religious education has the guarantee of its perpetuation through family, Church, and school institutions. Blaise Pascal (1620-1662) said in his *Pensees*: “We never situate ourselves in the present. We anticipate the future as being too slow in its actualization, as if we wanted to speed its course; or we remember the past in order to stop it; we are so hasty that we get lost through times which are not ours and we do not think of what really belongs to us and we are so empty, that we think of what is not any more and we run without reflecting only on what exists. The truth is that the present usually hurts us. We hide it from our eyes because it is painful; if, instead, it is pleasant for us, we lament about its passing. We try to support it through the future and we take care of the order of things which are not in our power, for a time which we are not sure we are going to reach. Let everybody analyze his own thoughts: he will always find them full of past and future. The present is never our purpose: the past and the present are means and only the future is our purpose. Thus, we never live, but hope to live; by always tending towards happiness it is inevitable not to ever reach it” (1998). It becomes thus obvious that the interpretation of past and present will be the evaluating criterion of the manner in which we anticipated the future.

The youth are, on the whole, the future of society and in particular of the Church. Elaborating a pastoral strategy of the teenagers is the proof of the responsible involvement of the teachers and priests in children’s lives, it is a proof of the emphasis on the importance which the young people have in society and in the Christian Church, a hope at the beginning of the third millennium. There is today the necessity of creating alternatives for spending free time for children and teenagers, which would assure conditions for the manifestation of their religious freedom and creativity (icon painting workshops, church choirs, Christian youth camps, children’s clubs, and the involvement of children in philanthropic activities and in the life of the community).

In nowadays Europe it is not only the economic which decides, but also the cultural inheritance which characterizes this geographical area. The cultural patrimony includes essentially the religious heritage...
which is at the root of the European identity. The traditional spiritual values of Europe are Judeo-Christian and, in this context, the revealed message of the Scripture must continue its prophetic role unveiling God’s will and the greatness of man who was created towards resemblance with Him.

More than ever, there is today the necessity of re-establishing a balance between past and future as well as re-finding a balance in which both the authentic (the traditional) and the new (the modern) would coexist. Within the religious education, between tradition and modernity, there has to be a close relation. An evaluation of this relationship between tradition and modernity must not be exclusively done in antagonistic terms. Without fearing that in the present conditions a recourse to the biblical tradition means a sterile imitation of a certain type of education from a certain period, it is important to become aware that a disposition towards knowing the traditional education is beneficent for the contemporary education, it is the first step towards an authentic dialogue of cultures.

REFERENCES

THE ROLE OF EDUCATION IN TRAINING PERFORMANCE MANAGERS
Gina-Ionela BUTNARU¹, Vasile COCRIŞ¹
¹ Department of Economy and Business Administration
„Al. I. Cuza” University, Bulevardul Carol I, Nr.11, 700506, Iaşi, Romania

Abstract

The process of human resources training gravitates around the force given by the education, which is also the vector determining the realisation of performance. It must equally take into account the ensemble of the other components conditioning the behavioural aspect, which are: interests, attitudes, motivations, and needs. The concept of performance is not easy to define, because it is an ambiguous and integrating concept. Performance means success, competitiveness, action, continuous effort, it is the optimisation of the present, and the protection of the future (Albu et al., 2003). Performance can be defined as a balanced ensemble of complementary parameters, sometimes contradictory, describing the results and the processes of reaching these results (Bourguignon, quoted by Albu et al., 2003). Consequently, this work has the purpose to analyse the role of education in training performance managers.

Key words: education, training, development, performance manager

1. INTRODUCTION

In the present conditions of the founding of the human activity on the principle of continuous education, of the transformation of information in a basic resource of the company, and – more recently – of the realisation of training organizations and companies based on knowledge, the education and training of the manager and of his team become the priority of each organization (Nicolescu, Verboncu, 1999).

Barbu (2010) considers that the necessity of a coherent and systemic approach of the role of professional education and training of the performance manager recommends in all Europe to ameliorate the access to education of the young people from all social groups, and to keep high standards, and an international openness for education. In Romania, at the same time with the integration in the European Union, the following strategic objectives are necessary: the development of quality and efficacy of educational systems; facilitation of the access of all the people to professional education and training; opening the systems of professional education and training to the society, to the social, economic and cultural environment. In particular, these strategic objectives have the purpose to obtain results for the increase of everyone’s performance.

Lisbon (European Union) strategy establishes the social economic criteria: competitive economy, democracy consolidation and knowledge society impose not only the four cognitive instruments which traditionally make the basic alphabetization, but also the achievement of new competences: digital and informational alphabetization, technological culture and civilisation, communication in modern languages of wide circulation as English and French, and so on, civic culture and behaviour, democratic citizenship, critical thinking, capacity to adapt to new situations, teamwork, interest for personal development and continuous learning (Ionită, I., Iatagan, M., 2009, Gherman, 2010).
Therefore, at the European Council from Barcelona in 2002 it was ratified the detailed work plan for the implementation of the objectives of professional education and training systems in Europe for the period 2001-2010. In Europe there were and still are multiple preoccupations related to the assurance of quality in professional education and training. For each member state, quality in education constitutes a national priority. The diversification of the services of professional education and training from different national systems determined also the preoccupation for the introduction of a European Reference Frame of Quality. The purpose of European Union is clear. Each member state should have a national education and training system already constituted or on the point of formation, which should be transparent and accessible to all the people, existing a general agreement concerning the evaluation of individual competences by reporting to criteria objectively verifiable. Consequently, the results of education and training can be recognized and transferred in the European Union (Barbu, 2010).

At present, we can state that education must integrate in the new tendencies and adapt its offers in order to support the new generation, permanently actualising the finalities and resources, so as to answer the new challenges and, at the same time, to offer efficient skills and work tools to the subjects of education.

2. EDUCATION AND EDUCATIONAL SYSTEM IN ROMANIA

Education is recognised by the Constitution. In the new education development stage there are the following priority objectives: the quality development of education, as basis for the realisation of the society of knowledge in Romania; intellectual and professional development from the perspective of permanent learning; assurance of the training of human resources by professional and technical education through continuous professional training; development of social cohesion and of citizens’ participation to the programmes of educational, economic, and social development of social communities (Gherman, 2010).

![Priority objectives](http://www.fonduri-ue.ro/res/filepicker_users/cd25a597fd-62/Finantari/Alte_oportunitati/Programe_Guvernamentale/1_PN2.pdf)

Figure no. 1. *Priority objectives of National Development Plan*

According to the principle of basic education for everybody, each person, child, young person or adult should benefit from a training corresponding to their basic needs of education, and this will be realised by: street verification of the formation of basic competences, introduction and use of modern interactive methods in education; review of school curricula for compulsory education and university; continuation of the training programme for digital competences; promotion of efficient learning models and styles; assurance of education for health, environment, democratic citizenship; minimum equipment with informatics means for all education units and institutions of Romania; access to the Internet for each education unit; professors’ training for the use of the computer; elaboration of educational software; budget subvention of personal computers for school or university students and teachers/professors; multiplication of communication channels and of the new form of socialisation; development of communication among schools and on-line universities; development of the educational network RoEduNet; introduction of electronic text-books in pre-university education and in higher education; realisation of the pilot network for education units situated in less favoured areas.

In what concerns the quality of education, The National Plan of Research, Development and Innovation 2007 – 2013, elaborated by The Ministry of Education and Research, includes 14 performance indicators. They are as follows:

- Assisting decisions for the policies of assuring the quality of education
- Management of quality in education
- Initial and continuous training of human resources from the perspective of quality of education and of stimulation of creative potential
- Education for research
- Development of entrepreneurial aptitudes
- Development of aptitudes for life in the educational system
- Education concerning the observance of the right of intellectual property
- Civic education
- Creation and correlation of the national frame of qualifications with the European one
- Evaluation of the organisations providing continuous education
- Management of human resources in education
- e-learning and quality education
- Languages of educational modelling
- Correlation of the educational system with the demands of the work market

The long term investment in quality of education is a priority with repercussions over the quality of life, work and inter-human relations.

Internal efficiency of education is an important priority for the operators from the educational system. The contribution of the educational offer to the lasting development of communities, in the conditions of the assurance of social and economic cohesion, must be permanently in the attention of the decision factors of the Government (Gherman, 2010).
The new economic and social context, corroborated with the European integration of Romania, requires superior information and performances in all the fields of activity. The reform in the field of initial and continuous formation will lead to career professionalization in Romania, reshaping the rate between the theoretical and the practical component of the curriculum of education and training of the personnel, development of an educational market of the programmes of continuous training, consolidation of the relationships between higher and pre-university education in initial training; assurance of career progress on criteria of professional competence, and not on criteria of other nature; stimulation of the institutions of higher education in order to develop programmes of managers’ initial and continuous training by post university studies, master’s degrees, doctor’s degrees.

A fundamental dimension of education is the necessity of consolidation of a set of stable values. It is necessary to support health education, civic education, cultural-artistic and scientific education, ecologic education, education by sport, traffic education.

The memorandum on permanent education, released by The European Commission and put under debate by Romanian specialists, sends the first message of assurance of new basic competences for everybody. The basic objective of this message aims to guarantee the universal and continuous access to education in order to shape and renew the competences necessary for a sustained participation in the development of the society of knowledge.

The three fundamental characteristics of the educational system: quality, equity, and efficiency, located in the centre of educational policies, are directly correlated with the material state of school and university education institutions.

Education and scientific research are important factors of economic development in all the countries, no matter the level of technological development. The human capital is conditioning the innovation capacity of a country, and technological innovations and adaptations are elements of the economic development on long term.

The education system in Romania must be oriented towards innovators’ training. Without availability-flexibility to action for a good transformation, without taking risks, the traditional practices are not enough, and condemn people to underdevelopment.

Dospinescu et al. (2011) consider that a deficiency of the traditional system of education is reflected in the simple fact that a lot of participants can evaluate and reproduce a memorised text, but at the same time they do not understand its subject in a way that could help them solving a real problem. There are also other critics to the traditional education (Jinga, 2003, quoted by Dospinescu): spatial limitation; focus on the professor (speaker); limited presentation, different every time; weak communication following the presentation; study materials are available only for a few groups of students; static impact of the study content (field) on the audience; there are not allowed personalised learning styles / learning in stages (gradually); difficult administration of analytical programmes by the participants; difficulty of their involvement in active dialogues; static, impersonal evaluation; difficulty to access the results and to administrate them quickly and efficiently; the persons with special needs / disabilities do not have always access to study materials; high logistical costs (study materials editing/printing, space administration, transportation, etc.).

The knowledge production, the transmission by an efficient communication, by continuous education and training, dissemination of information, use of innovation, assurance of the cultural aspect are the elements defining the uniqueness of an educational institution.
At the Ministries of Education Conference, which took place in Berlin in September 2003, it was recognised the fundamental role played by the universities in the development of The European Space of Higher Education. The following priorities were established: the development of European, national, institutional education; structuring the studies, recognition of the studies; transformation of permanent education in reality; assuming social responsibilities derived from the autonomy of the institution; opening towards communication and participation in the elaboration and establishment of strategies and policies of regional, national and European development (Enăchescu Eleonora, Plan managerial, quoted by Gherman, 2010).

The efficiency of Romanian research depends on its capacity to put together the laboratories with specialised economic and research structures, participation in some research programmes, integration and participation in the European Space of Scientific Research. In the managerial activity, educational institutions should promote realism and dynamism of activities, creativity and flexibility, coherence of the measures established, quality of the activities of educational and cultural training, encouraging the scientific and publishing research, quality of services offered to the consumers, transparency in establishing the strategic objectives, opening in the dialogue with the society.

3. METHODS USED IN MANAGERS’ TRAINING AND EDUCATION

The manager’s work involves multiple theoretical knowledge and practical abilities. These allow the manager to understand the theoretical bases of managerial activity, to create a background of technical documentation, to delimitate his performance limitations, behaviour, and ethical criteria. The manager’s activity implies a vocation for which knowledge must be accumulated, where abilities and attitudes are necessary which will be used for organising, leading, and guiding the activity of the employees of the company. This work has distinct characteristics, which can be assumed, formed, followed, and analysed (Ceaușu, 1998, quoted by Tohătan).

The quality of training and education of the company manager depends very much on the pedagogical material utilised. According to their content, to the qualities they require from the participants in the learning process, the educational methods divide into two main categories:

- classical;
- modern or active.

The classical educational methods. More frequently used are the lectures or presentations and seminars. Their characteristic is the focus on the presentation of knowledge and on learning. Consequently, the focus is mainly on the knowledge of the human potential, ignoring most of the aptitudes, skills and the behaviours which, in fact, are decisively conditioning the work efficacy within the commercial societies and state companies.

The modern or active educational methods are focused on training and developing aptitudes, skills and behaviours, requiring especially capacity of analysis, ability of synthesis, ability to establish objectives and to conceive their realisation, forming dynamic stereotypes concerning the use of some methods, development of the ability to make certain tasks, methods etc. operational. Among the active methods there are the case, the managerial simulation, the incidence method, test batteries, and so on (Nicolescu, Verboncu, 2006)
Managers’ improvement, formation, education and training in the spirit of performance is accomplished through pragmatic management institutes (centres), oriented towards the rapid development of the binomial **competence = performance**.

The permanent education (Tohătan, 2012) constitutes an effective alternative used in the developed states:

- The 1st stage (post-university) for the development/increase of competence and of the area of activity and responsibility in key moments of the management career of the leaders/consultants/specialists. We notice the inclusion of the needs of improvement/training of such a company.

- The 2nd stage of permanent education consists in the actualisation and completion of management knowledge for working managers according to the hierarchical promotion and for the consultants specialised in management who practice this profession. This stage is oriented towards the increase of company performance, development of the leader’s entire ability (competence), and planning his career.

*Action learning* is a method of development for managers. They practice more and more complex activities, which for the employees represents the development of the aptitudes for a certain technique or work. It is used in management together with the wide concept of managers’ improvement/training as integrated notions in interrelation.

*Managers’ continuous training implies*: managers’ training and improvement in the modern management area, specific to the market economy; permanently informing the executive managers with news and performance solutions in the field of management, both internally and internationally; training and educating specialists in management fields: marketing, finances, informatics for management, human resources management, and leadership psychology, development strategies, research management, and so on.; promoting complex actions of strategic and process consulting in the field of management; gradual diversification of continuous training system of managers and specialists in the field of management according to the specific necessities and to their evolution in career (Nicoleșcu, 2001).

We provide in Table 1 Statistics of the population for higher education in Romania, on categories of age and sex. The purpose is to analyze the evolution concerning the education of the population.

<table>
<thead>
<tr>
<th>School age</th>
<th>Sex</th>
<th>Years</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 years</td>
<td>Masculine</td>
<td></td>
<td>50602</td>
<td>53743</td>
<td>45984</td>
<td>40547</td>
</tr>
<tr>
<td></td>
<td>Feminine</td>
<td></td>
<td>76719</td>
<td>72957</td>
<td>62353</td>
<td>53572</td>
</tr>
<tr>
<td>20 years</td>
<td>Masculine</td>
<td></td>
<td>51459</td>
<td>52934</td>
<td>50587</td>
<td>46023</td>
</tr>
<tr>
<td></td>
<td>Feminine</td>
<td></td>
<td>71709</td>
<td>73942</td>
<td>66714</td>
<td>62000</td>
</tr>
<tr>
<td>21 years</td>
<td>Masculine</td>
<td></td>
<td>48710</td>
<td>48913</td>
<td>47919</td>
<td>46212</td>
</tr>
<tr>
<td></td>
<td>Feminine</td>
<td></td>
<td>65614</td>
<td>61330</td>
<td>61229</td>
<td>60341</td>
</tr>
</tbody>
</table>
Therefore, we can notice that no matter the age or sex category, in the year 2010, as compared to the years 2007, 2008 and 2009, the number of people who want to follow higher education training courses registers a powerful decrease. The cause is probably the lack of financial resources, or the discouragement of the population due to unemployment. In other words, in Romania there is no market to absorb the young graduates.

The manager’s continuous learning based on the Internet becomes more and more accessible to a global audience. More than ever, knowledge and learning “are an opportunity” for the development of performance of the future manager. At present, the implementation of educational technologies based on the internet, generally called e-learning, constitutes a main component both in the employees’ training in the company, and in the managers’ continuous education.

In a general approach, e-learning is defined as a large set of applications and processes including web-based learning, computer assisted learning, virtual and digital classes (Faherty, 2002).

The specialists in the field (Rossett, 2002) refer to five functions of the e-learning: learning – which requires changing the way of thinking so as to remember as many information we learned as possible, and use it when needed, practically, in order to solve certain problems; information support and training – this aspect is focused on the external resources which the managers, and not only them, look for when needed; knowledge management – this aspect concerns the effort to collect documents, applications, lessons offered in a way that should facilitate their large distribution and utilisation. Knowledge management is necessary in order to maximize those “smart” aspects existing between persons and companies; interaction and collaboration – even if classroom interaction can be easily remembered due to interactive moments, technology can be used with the same purpose, in order to engage virtual conversations and interactions. They allow development and training one on one, online communities, discussions before and after class; guidance and pursuance – due to this function, managers can evaluate themselves according to the standards, they can test their organizational abilities related to the trend and to the immediate priorities. Professors or managers can notice better

<table>
<thead>
<tr>
<th>Age</th>
<th>Masculine</th>
<th>Feminine</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>45642</td>
<td>61706</td>
</tr>
<tr>
<td>23 years</td>
<td>35694</td>
<td>37990</td>
</tr>
<tr>
<td>24 years</td>
<td>25878</td>
<td>26626</td>
</tr>
<tr>
<td>25 years</td>
<td>19793</td>
<td>18707</td>
</tr>
<tr>
<td>26 years</td>
<td>13600</td>
<td>15744</td>
</tr>
<tr>
<td>27 years</td>
<td>12579</td>
<td>12437</td>
</tr>
</tbody>
</table>

Source: National Institute of Statistics
the abilities of their employees or their own, as well as the way in which they implement their knowledge in different projects.

The advantages of the use of the virtual system consist in some very important aspects which make it attractive and easy to accept. Among these, we mention as follows (Rossett, 2002):

- Focus on the participant;
- Real-time access to knowledge, anytime, anywhere;
- Travel expenses are not necessary, nor to interrupt the professional activity;
- Participants collaborate and learn (to work) together;
- The material is personalized to the participant’s previous knowledge and experience;
- The possibility of continuous training;
- Many integrated learning systems have registering facilities, online payment, monitoring of the participants’ progress, automatic testing;
- The possibility to use some additional sources of information during the evaluation in this system;
- Saving the time spent travelling towards the learning facility, through rapid access of the desired information from any area of the world, and more time for the participant in the act of learning;
- The possibility to review misunderstood aspects;
- The possibility to use a flexible study schedule;

Taking into consideration the functions of learning, interaction and collaboration, in order to notice the currents of opinions regarding their efficient use and application on-line, we can state that the managers’ challenge is to learn to integrate in courses the new technology of information, so that it makes sense and has educational resonance. Most professors (Giddens, 2006 quoted by Dospinescu et al., 2011) consider that the information transmitted by computer is replacing the basic one, transmitted by traditional lessons.

4. MANAGERIAL PERFORMANCE AND PERFORMANCE MANAGEMENT

According to professors Bărbulescu and Bagu (2001), performance is “a certain level of the best results it obtains”. They consider that by the correlative evaluation of performances concepts of competitiveness and competition advantage are involved. We can add that, inevitably, the notion of performance (economic, managerial) emphasises efficiency and efficacy, and the indicators of expression get a special diversity. Obtaining company performances requires, directly or indirectly, the re-evaluation of concepts of competitiveness, competition advantage, efficiency and efficacy (Verboncu, 2005).

Managerial performances are leading to a performing management, practised by professional managers, who are capable of managerial performances, generating economic-financial and social performances (Verboncu, 2005).
Armstrong and Baron (2005) define performance management as a process contributing to the efficient management of individuals and teams in order to reach high levels of performance in an organisation. In other words, performance management should be strategic and integrated. According to these authors, performance management is seen as an instrument of evaluating managers’ efficiency according to the way they are sending information to their employees, as it follows:

- the employers know and understand what the company expects from them;
- they have the abilities and the capacity to reach the expectations;
- the company supports them in developing the capacities necessary in order to reach its objectives, and offers them feedback on their performance.

Armstrong (2009) also considers that performance management is regarded as a systematic process of improvement of organisational performance by the development of performance individually, and as a team.

Performance becomes nowadays a term of reference for managers and employees. A performing organisation satisfies quantitatively and qualitatively a certain segment of social needs, and obtains a competitive advantage on the market. “Obtaining value for the client” and “obtaining value for the employee” are two approaches oriented towards operational excellence (Coates, 1997).

Obtaining managerial performances for the company is conditioned by the managers’ and the employees’ competence, by the cultural context in which they work, by the contextual influences exercised by the national and international environment.

5. CONCLUSIONS

People’s education and training for the managerial function represent a practical professional activity, for which are needed specific, technical and relational knowledge and abilities. As compared to other professions, the managerial function has two characteristics: it is also exercised on other persons, so it is not a solitary profession; it is learned in school, and especially in professional practice.

Manager’s training is essential for the development of the organisation. It is the way towards the performance of the organisation. The more the managers strive to become efficient, the more they raise the level of performance of the entire organisation.

In these conditions, the organisation depends for its functioning and surviving on the manager’s efficiency, performance, and results, which can be obtained only with a certain level of knowledge.

Therefore, obtaining and managing a certain level of knowledge is realised only by accumulating information and practical experience, by studying and learning.

ACKNOWLEDGEMENT

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CREATIVITY AS A POSITIVE ATTRIBUTE
OF THE FUTURE MANAGER’S PERSONALITY

Beatrix Bacova¹, Lydia Kontrova¹, Eva Lelakova²

¹Department of Mathematics, Faculty of Humanities, University of Žilina, 010 26 Žilina, Slovakia.
E-mail: beatrix.bacova@fhv.uniza.sk; lydia.kontrova@fhv.uniza.sk

²Department of English language and Literature, Faculty of Humanities, University of Žilina, 010 26 Žilina, Slovakia. E-mail: eva.lelakova@fhv.uniza.sk

Abstract

Nowadays universities precisely define a competency profile of graduates of specific study programmes as they take into consideration the existing labour market and developing society needs. Future representatives of managerial professions are supposed to fulfil more and more demanding requests and so it is expected that creative, logical and divergent thinking will certainly be positive attributes of all good managers. In the present paper we deal with the diagnostics of the level of the future managers’ creative potential which is considered to be one of the most important attributes essential for their practice. We present the results of the research done on the sample of 240 students of the Crisis Management, Security Management and Rescue Services – study programmes realised on the Faculty of Special Engineering, University of Žilina in Žilina. To obtain the necessary data we used a screening tool – a standardised Urban’s figural test of creative thinking. It gives us a relevant view of the creative potential of an individual.

Key words: students’ key competences, creativity, Urban’s figural test of creative thinking, the quality of a study programme

1. INTRODUCTION

Current direction of European education policy is characterized by an effort to attain the quality of school and educational process. The question of the quality of universities and their study programmes is one of the most frequently discussed topics in Slovak education. In the announcement of the Commission of the European Communities to the Council of EU and European Parliament (Brussels, 3.8.2007) concerning the education quality improvement it is stated that „the education quality is one of the key factors in determining whether the European Union can increase its competitiveness in the globalised world.“ Thus education development and improvement of its quality forms a decisive priority in the European Union as a whole. What do we understand by a high-quality school, resp. high-quality study programme? Nowadays a society expects from its educational system a different level in comparison with previous societies and expresses it by newly formulated educational goals. They declare predominantly the need to develop the key competences of an individual, such as cognitivisation, axiologization, autoregulation, socialisation, activization, motivation, communication and creativisation. On the other hand, there is a growing education quality request from the perspective of graduates’ positions on the labour market.
Slovak students and their parents are very often just the passive consumers. When they choose the school, they do it at random because they miss tools which could help them to orientate on the education market. Schools create only a small space for their responsibility for the quality and its measurement. Relevant data which would inform about the level of acquired education are not accessible and unfortunately, convenient tools for the acquired education quality determination are missing, too. And so just numbers, arithmetic means of marks and amounts of students are judging attributes which very often obscure the facts concerning the quality of processes at school.

2. UNIVERSITY EDUCATION AND CREATIVITY

Nowadays the request (well-known for decades) to develop and appreciate critical and creative thinking of students is becoming more and more topical. And this is the reason why this paper deals with the development of creativity – an important personal attribute of future managers. Not only in earlier (Torrance 1975) but also in later resources (Zelina 2000, Szobiová 2004) we can find critical opinions claiming that the support of creativity in schools (also universities) has significant reserves. According to Zelina (1977) only 2% (!) of tasks and questions asked during lessons focused on the support of creative and divergent thinking. “After all, in our everyday life we need mainly creativity“; the author states and we have to agree with him. The stated discrepancy between the university offers and practice requirements indicates that a school does not prepare students for practice and life sufficiently. The acceptance of requirement – to develop a creative potential of students by implementation suitable study modules into study programmes – seems to be a necessity in the selected fields of study.

There exist many fields of study and study programmes which declare their graduates to be creative, flexible, active and constructive individuals (profession of a doctor, teacher, manager, etc.). However, according to available sources, facilitation and stimulation of creativity in undergraduate training of managers, teachers and other experts in the conditions of our university education still have visible reserves. Therefore the aim of an experiment, whose results are presented in this paper, was a qualitative analysis of selected study programmes in terms of their potential to form creative graduates of university education. The experiment was conducted on the Faculty of Special Engineering of the University of Žilina in Žilina for the study programmes: Crisis and Security Management. The profile of the graduate of these study programmes is defined as follows: Graduates are prepared to hold managerial positions in public administration and local government in the field of crisis management. They are able to reveal risks and dangers and analyse and suggest procedures of their reduction. They have knowledge of the theory of crisis management with emphasis on proposing and realizing preventive measures, preparation of adequate reaction on emerging crisis as well as realization of system recovery after the crisis factors elimination.

As is evident from the above, a study programme aims to form a really flexible, active, creative and professionally skilled personality. Having studied the study programme we can conclude that it includes several courses and lectures stimulating the stated competencies. Students attend lectures from psychology and sociology where they obtain specific information and learn about scientific findings from the field of psychology of creativity. In some economic subjects (such as management, marketing, methodology of creative work, managerial communication, logistics and microeconomics) they obtain partial information about the most popular techniques of creative thinking support. However, they have neither targeted training nor specialised seminars of creative solution of problems where there would be the possibility of systematic cultivation and development of their own creative abilities under professional guidance. Therefore after the study programme analysis we decided to
conduct a pedagogical experiment with the aim to find out if the development of the students’ creative potential is conditioned by the undergone subjects and activities sufficiently.

3. CREATIVITY

Definitions of creativity differ depending on various theoretical concepts, which they are based on, and are differently oriented – on personality, abilities, process and intellectual activity. Creativity is according to Sillamy (2001) a natural trait whose development depends on socio-cultural environment. It needs favourable conditions to be able to prove itself. Creativity in a potential state exists in each individual in each age. The ability of a person to clarify problems, to synthesize a former order of elements into new contexts, to perceive an existing problem in a new way, discover new relations and produce new and untraditional views on situations are according to Fülöpová (2006) basic building (constituent) components of creativity. The personal features of a creative personality are tolerance towards ambiguity and stimulated freedom (a creative person does not solve the problems in a traditional, generally used way). “Creativity is such interaction of a subject with an object in which the subject changes the surrounding world, creates new, useful and for a subject, referential group or population important values“ (Zelina, Zelinová, 1990, p. 17).

Žák (2004, p. 29) emphasizes an overall understanding of creativity. According to him creativity can be understood as:

- **ability**: a) to imagine or invent something new, b) to create solutions, ideas, thoughts by the combination, change or other use of existing ideas;
- willing **attitude** to accept something new, to accept a change, the courage to risk, play with thoughts and ideas and react flexibly on the newly arising situations;
- **process** characterized by hard work, systematic mental activity of new ideas and solutions formation, by the space for improvisation as well as for the order and discipline (see Fig.1).

![Fig. 1. A scheme of overall understanding of creativity](image-url)
In order to clarify and accent the insistence of creative abilities of a person in the occupational performance, we will define the overview of creative abilities stated by many authors, e.g. Ďurič, Grác, Dargová (2001) and others:

- **sensitivity** (problem sensitivity) – the ability to notice a problem where other people do not notice it,
- **fluency** – the ability to produce an amount of ideas quickly and easily in a limited time period,
- **flexibility** – the ability to make various solutions to problems which differ in content,
- **originality** – the ability to produce unusual, often witty, bright and surprising solutions and ideas,
- **elaboration** – the ability to solve a problem by working out the details in the solution of a problem, elegance of solution,
- **redefinition** – the ability to change the meaning of an object or its part, the ability to get over the used ways of a problem solution.

The traits of the **creative personality** are:

- **autonomy** – a creative person acts independently of the external influences, he/she does not accept other opinions and attitudes uncritically and does not force his/her opinions on his/her surroundings,
- **autoregulation** – self-forming, integrative tendency of an individual,
- **assertiveness** – healthy assertion of a creative person’s ideas,
- **reflectiveness** – discovering, noticing and searching the heart of the mater,
- **immediativeness** – immediateness and unrestrainedness,
- **variability** – a dynamic change of behaviour with respect to a given situation,
- **dynamism** – activeness,
- **predilection** – a strong liking.

On the basis of the stated characteristics we can say that many qualities of a creative personality are necessary when the profession of a crisis manager is performed. For this reason we have decided to test the rate to which the study programmes Crisis and Security Management on the Faculty of Special Engineering encourage the development of creative abilities and qualities of their students.

### 4. EXPERIMENT IMPLEMENTATION

**The aim of an experiment – experimental plan**

The main aim of our experiment was to find out what is the range of creative abilities of future managers – graduates of the study programmes Crisis and Security Management of the Faculty of Special Engineering of the University of Žilina as well as to find out if the educational standard of the analysed study programmes enables and stimulates the development of creativity and provides the fulfilment of aims defined in the graduate career prospects. In the first stage of the experiment we defined the research problem of a causal type in the following way:
What is the influence of the completed study programme Crisis Management on the development of the creative potential of students?

We expected the following result of our experiment:

Confirmation of a positive impact of completing the study programme on the development of students’ competences in the sphere of creativity.

In the second stage of the experiment we used a database of obtained data and implemented an analysis of qualitative signs. As the addressed respondents indicated also the type of school they came from, their interests (courses with artistic, sport or technical orientation), and the highest level of education of their parents, it was possible to analyse the dependence of several pairs of qualitative signs. On the basis of formulation of a research problem, we have stated the following hypotheses for the verification:

\[ H_1: \text{The students, which attended a study programme Crisis Management, will have at the end of an experimental period a higher score of a creative potential probed by the Urban’s figural test of creative thinking than the students who did not attend this study programme.} \]

\[ H_2: \text{The type of a secondary school, which students attended, and a score of a creative potential of students probed by the Urban’s figural test of creative thinking are statistically remarkably dependent signs.} \]

\[ H_3: \text{The acquired degree of parents’ education and a score of a creative potential of students probed by the Urban’s figural test of creative thinking are statistically remarkably dependent signs.} \]

When collecting the data necessary for the verification of the hypotheses \( H_1 - H_3 \), we used Urban’s figural test of creative thinking TSD-Z (Urban, Jellen 1993) which meets the criteria of a culturally neutral as well knowledge-independent test. Urban’s test takes into consideration not only cognitive dimensions but also personal aspects of creativity: complexity of perspective, the courage to take a risk, humour, emotionality, unconventionality and overcoming the barriers. According to its authors it identifies creativity in a more complex way than other performance measures. The figural test of creative thinking is a suitable screening tool which can provide an initial view on a creative potential of an individual. It is based on the principles of unfinished figures which have to be completed. There are five figures located in a frame; the sixth one is situated outside the frame (see Fig.2). Unlike traditional tests of creativity focused on the quantity (production), resp. on one of the factors of divergent thinking, a TSD-Z test takes into consideration also qualitative features of creative performances. The total score provides a general estimate of a creative potential. TSD-Z is an adequate tool in identifying the influences of creativity development programmes in school conditions by the form of a test or retest.
Figural production is evaluated according 14 evaluation criteria which represent the present test construct:

- Use of presented fragments (Wf) – at most 6 points
- Sketching (Eg) – at most 6 points
- New elements (Ne) – at most 6 points
- Graphic connection (Vz) – at most 6 points
- Thematic connection (Vth) – at most 6 points
- The border exceeding dependent on a figure (Bfa) – 0 or 6 points
- The border exceeding not dependent the figure (Bfu) – 0 or 6 points
- Perspective (Pe) – 0 or 6 points
- Humour, affectiveness, emotionality, expressive power of drawing (Hu) – at most 6 points
- Unconventionality A (manipulation with material) + B (abstraction, surrealistic topic) + C (use of signs and symbols) + D (not using of stereotype figures) – for each factor 0 or 6 points
- Time factor (Zf) – at most 6 points.

For the possibility of results comparison in an international context we kept the original signing of individual categories. The stated criteria used during the evaluation process of each figure will provide an estimated value of creative abilities of an individual. The result will not evaluate the quality of figural, resp. artistic production; however it provides the view on the willingness of a respondent to deal freely and flexibly with a submitted task. A total maximum score in a TSD-Z test is 72 points.
Verification of $H_1$ hypothesis

The experiment, which was aimed at the verification of $H_1$ hypothesis, proceeded over academic years 2010/2011 and 2011/2012. An experimental group was formed by 120 students of Faculty of Special Engineering of the University of Žilina (study programmes Crisis and Security management), and the control group was formed by 120 students of Faculty of Civil Engineering of the University of Žilina (a study programme Buildings). We supposed that at the end of the experimental period, the rise of a creative potential of the students of the study programmes Crisis and Security Management would be shown when being compared with a control group. Thus the aim appropriateness of the stated study programme would be verified. For the purpose of the analysis and evaluation of the data collected with the help of a TSD-Z test, a pair $t$-test for a middle value was subsequently used.

Processing methods and experiment results

While conducting an experiment, we were verifying the influence of a chosen study programme on the rise (reduction) of the level of a creative potential of students in both experimental and control groups during two academic years. After finishing an experimental action, we had two pieces of relevant data about each student (scores obtained in the evaluation of a pre-test and retest). These data formed a dependent pair. Furthermore, we supposed that the obtained results were independent and realized selections were from the basic files with an approximately normal division. When the stated assumptions were met, it was possible to use a pair $t$-test as a testing statistic: Student’s $t$-division on $(n - 1)$ degrees of laxity ($n = 120$) for the results processing and evaluation. We tested a hypothesis on the equality of middle values $\mu_1$, $\mu_2$ against two-sided and one-sided alternative hypotheses on the significance level $\alpha = 0.05$. A tested problem was in the form:

\[ H_0: \mu_1 = \mu_2 \text{ against } H_1: \mu_1 \neq \mu_2, \]

\[ H_0: \mu_1 = \mu_2 \text{ against } H_1: \mu_1 > \mu_2. \]

The obtained results have been summarized in the following table:

Table 1. Statistic characteristics of a pair $t$-test

<table>
<thead>
<tr>
<th>Experimental group</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td>The average score in a pre-test: 36,03</td>
<td>The average score in a pre-test: 35,71</td>
</tr>
<tr>
<td>The average score in a retest: 38,34</td>
<td>The average score in a retest: 36,07</td>
</tr>
<tr>
<td>The value $p$ in one-tailed $t$-test: $p = 1,690.10^{-5}$</td>
<td>The value $p$ in one-tailed $t$-test: $p = 0,1495$</td>
</tr>
<tr>
<td>The value $p$ in two-tailed $t$-test: $p = 3,381.10^{-5}$</td>
<td>The value $p$ in two-tailed $t$-test: $p = 0,2991$</td>
</tr>
</tbody>
</table>

$p$ – probability mistake made when the testing hypothesis is rejected
When the significance level is $\alpha = 0.05$, and $p < 0.05$, a hypothesis $H_0$ is rejected. As we can see from the Table 1, the difference between results in a pre-test and retest in a control group is not statistically important. In contrast, on the basis of realized statistical findings we can conclude that the difference in the number of points obtained in the pre-test and retest in an experimental group is statistically important. Thus the positive effect of the presented study programme on the development of a creative potential of students was confirmed. After a deeper analysis of the results we came to the conclusion that an important factor stimulating the creativity of students could be the fact that students in the first year of their study attended two courses of Higher Mathematics and one course of Constructive Geometry. As it is known from several studies, a study of mathematical sciences encourages analytical, deductive, inductive and divergent thinking of students and thus indirectly develops their creative potential.

**Verification of $H_2$ hypothesis**

The data obtained from 120 respondents, who formed an experimental group, were used in the verification process of other hypotheses. First of all, we were interested if the obtained educational level of parents significantly influences the level of creativity of their child, and also if the level of creativity of the student and a type of a secondary school he/she attended are interdependent attributes.

**H2**: A type of the secondary school, which a student attended and a score of a creative potential of students probed by Urban’s figural test of creative thinking are statistically remarkably dependent signs.

For $n = 120$ elements of a chosen group we observed qualitative signs $A$ and $B$.

Sign $A$ indicates a type of secondary school which a respondent attended.

Sign $B$ indicates a level of a creative potential probed by a TSD-Z test.

Sign $A$ gained levels $A_1 = $ Secondary Grammar School, $A_2 = $ Secondary Modern School.

Sign $B$ gained levels $B_1 = $ above-average, $B_2 = $ average, $B_3 = $ below-average.

<table>
<thead>
<tr>
<th></th>
<th>Secondary Grammar School</th>
<th>Secondary Modern School</th>
<th>Σ</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Above-average (score TSD-Z &gt; 46 points)</strong></td>
<td>30</td>
<td>12</td>
<td>42</td>
</tr>
<tr>
<td><strong>Average (score TSD-Z from 31 to 45 points)</strong></td>
<td>22</td>
<td>30</td>
<td>52</td>
</tr>
<tr>
<td><strong>Below-average (score TSD-Z &lt; 30 points)</strong></td>
<td>10</td>
<td>16</td>
<td>26</td>
</tr>
<tr>
<td><strong>Σ</strong></td>
<td>62</td>
<td>58</td>
<td>120</td>
</tr>
</tbody>
</table>

As a test criterion we applied a statistic $\chi^2$. In order to calculate the value of the testing statistic $\chi^2$ we used Microsoft Excel. By inserting the function CHITEST for the input data we got the value $\chi^2 = 10.208$ and the probability value $p = 0.00607$ in the output report. Since $p < 0.01$ on the level of significance $\alpha = 0$, we reject a hypothesis about an independence of observed signs. That means that the type of a secondary school statistically remarkably influences the level of a creative potential of a
The degree of statistical dependence between observed qualitative signs $A$ and $B$ was subsequently assessed with the help of contingency coefficient defined as:

$$C = \sqrt{\frac{\chi^2}{n + \chi^2}}.$$ 

The value of contingency coefficient is $C = 0.292$ and this implies that there exists a low degree of binding between a type of school and a level of a creative potential of students.

**Verification of $H_3$ hypothesis**

The verification process of the hypothesis $H_3$ was analogous to the process used with the hypothesis $H_2$.

$H_3$: The acquired degree of parents’ education and a score of a creative potential of students probed by the Urban’s figural test of creative thinking are statistically remarkably dependent signs.

For $n = 120$ elements of a selected group we again observed qualitative signs $A$ and $B$.

Sign $A$ indicates the highest level of education of the respondent’s parents,

Sign $B$ indicates the level of a creative potential probed by a TSD-Z test.

Sign $A$ gains levels $A_1 = \text{tertiary}$, $A_2 = \text{secondary}$, $A_3 = \text{primary}$.

Sign $B$ gains levels $B_1 = \text{above-average}$, $B_2 = \text{average}$, $B_3 = \text{below-average}$.

Once again we tested a null hypothesis $H_0$ about the independence of the observed signs $A$ and $B$.

<table>
<thead>
<tr>
<th></th>
<th>University</th>
<th>Second. school</th>
<th>Primary school</th>
<th>Σ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above-average (score TSD-Z &gt; 46 points)</td>
<td>28</td>
<td>8</td>
<td>6</td>
<td>42</td>
</tr>
<tr>
<td>Average (score TSD-Z from 31 to 45 points)</td>
<td>15</td>
<td>27</td>
<td>10</td>
<td>52</td>
</tr>
<tr>
<td>Below-average (score TSD-Z &lt; 30 points)</td>
<td>6</td>
<td>7</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>Σ</td>
<td>49</td>
<td>42</td>
<td>29</td>
<td>120</td>
</tr>
</tbody>
</table>

For the input data from Table 2 we obtained in the output set the value $\chi^2 = 28.75$ when using a test statistic $\chi^2$ and a probability value $p = 0.00009$. Since $p < 0.01$ on the level of significance $\alpha = 0.01$, we reject a hypothesis about the independence of observed signs. It means that a degree of parents’ education statistically significantly influences the level of a creative potential of their child.

A degree of the statistical dependence between the observed qualitative signs $A$ and $B$ was again assessed with the help of a contingency coefficient. We got the value $C = 0.451$ which implies that there exists a moderate degree of binding between the degree of parents’ education and the level of a creative potential of their child.
5. CONCLUSION

The main function of the university education is to contribute to the development and perfection of a society as a whole. Education enables the development and progress of a society. For the society, in which we live, receiving, transmitting and application of new knowledge, which becomes its part, is typical. Education is related to the holder whose only task is a continual completion of his/her theoretical knowledge and practical skills for his/her personal as well as society-wide benefit (Plavčan, 2006, p. 51). Educational policy acquires new dimensions which become an inseparable part of the present society (Chuguryan, 2008, p. 151). The aim of a knowledgeable society has to be a desire for wisdom, understanding the world, self-knowledge and self-formation, desire to observe the world mentally and to understand its laws, desire to create, construct and cultivate a practical wit. Education has to respect not only knowledge and skills of a person which aim to a concrete situation and quickly lose topicality. It has to respect also a complex development of cognitive, psychomotoric and socio-affective sides of a personality (Turek 1998). The development of a knowledgeable society creates new job opportunities for school graduates. Education becomes one of the most important factors influencing employment. Educational improvement leads to reinforcement of integrity of the whole society, eliminates its negative phenomena and contributes to the formation of a stable environment. University institutions should educate students who will be able to think critically and creatively, analyse social problems and search for their solutions and applications and take social responsibility. If the mankind wants to survive, the people have to be aware of their ambitions and strengths. And education of a high quality can give them a necessary psychical power and security. John Adam (2006) wrote: „There exist two types of education: One teaches us how to earn a living and the other one how to live“. This quotation can be an answer to the questions we asked at the beginning of this paper: What is the direction of our university education, what is its quality, what is a good university like and what are good study programmes like?

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EDUCATION IN ETHIOPIA
Galina Balashova
Institute for African studies, Russian Academy of Sciences,
North Arabian and African Horn countries Research Center
Spiridonovka str. 30/1, Moscow, Russia

Abstract
Ethiopian education had been under the supervision of the church up to the early 20th century.
Secular education started in 1908 when Menelik (1889-1913) founded several schools with a primary aim of teaching foreign languages necessary to maintain the state’s independence and establish contacts with the rest of the world. In 1935, before the Italian aggression, there were 8 primary schools in the country, 14 schools built in provinces had sponsors.
After the victory over the Italian invaders in 1941, post war schools were opened in 1942. Educational expenses rose from 600,000 byrr in 1942 to 19,000,000 in 1958-59. By 1959-60 the amount of students in state schools reached 250,000, including 50,000 women. The structure of Ethiopian education was a hybrid of the British system with that of the neighboring countries as Sudan and Kenya. In 1963-64 the Ministry of Education changed the 4+4+4 system to 6 years of primary + two years of secondary school. In 1967 the number of schools amounted to 1.111 state schools and 774 private and church schools.
After the deposition of the monarchy in 1974, the educational system underwent a serious restructuring: all private schools were nationalized. Within the period from 1975 to 1989 the number of students increased by 12% annually, from 1,042,000 to 3,926,000. In 1975-77 an all-nation campaign —Development through Cooperation — was in full swing. As a result illiteracy fell from 93% to 37%.
After the fell of the government headed by Menghistu Haile Mariam in 1991 the general pattern of Ethiopian education has changed drastically, the amount of students grew from 35% in 1990 to 70% in 2004. It was due to the increase in foreign aid and loans. According to the World Bank statistics, 20% of the total education expenses went to higher education which was also stopped to be a monopoly of state. In 2007-8 there were 22 state universities and 51 non-government institutions. The total number of students amounted to 270,356.
Key words: education, policy, secular, primary, higher.

1. EDUCATIONAL POLICY UP TO THE 19th CENTURY
Ethiopian education had been under the supervision of the church up to the early 20th century. The clerical educational system, as it is recorded in documents, must have been formed in the golden age of the Ethiopian church and state in the 13-16th cc; it had co-existed with secular school since the times of Menelik.
There were five types of clerical schools: the primary school nebab bet (literally “house of reading”);
the secondary school qiddase bet (“house of liturgy”); the higher school comprising zema bet (“house of singing”) gene bet (“house of poetry”) and metshaf bet (“the house of the Book”). This educational system was adequate for the needs of the economically underdeveloped society of the mediaeval type. The strongest motivation for getting a higher clerical education was aspiring for a prominent office in the church or government, the education taking thirty years of assiduous work, hardship and moving from one famous school to another.

Secular education started in 1908 when Menelik (1889-1913) founded several schools with a primary aim of teaching foreign languages necessary to maintain the state’s independence and establish contacts with the rest of the world. During the first twenty years of its existence, the Menelik School was a kind of a language high school rather than a comprehensive secondary. The admission was not restricted by age, but the applicants were to be speakers of the Amhar language. Students were taught French, English, Italian and Arabic and on graduation worked both in the country and abroad, mainly in governmental structures. The number of graduates between 1908 and 1925 approached 3000. In the same period, many missionary schools were opened. The Regent Tafari Makonnen (later crowned as Haile Selassie I) was patron of foreign missions in the country, Swedish and American above all.

In 1925 Tafari Makonnen founded a second secular school, which, like the Menelik School, was targeted to foreign languages, besides there was an emphasis on studying Christianity. Thus, both schools were founded by the leaders of the state instead of the state itself. It was only after 1926 that the state introduced budget financing of education, and modern schools were considered essential for the active development of the country.

In 1935, before the Italian aggression, there were eight primary state schools in the country; fourteen schools built in the provinces had sponsors. According to R.Pankhurst, a well-known English scholar, about 200 Ethiopians had a chance to go abroad for further education.

The Italian aggression (1936-41) disrupted the new educational system of the country: state schools were either closed or reformed into military schools. The majority of educated Ethiopians were killed.

2. EDUCATIONAL POLICY IN 1941-73.

After the victory over the Italian invaders in 1941, the Imperial government started the restoration of the former educational system; the first post-war schools were opened in 1942. The state expenditure for schools in those years reached 600,000 byrr. At the same time, despite the British financial assistance, there was a severe shortage of teachers and students.

From 1942 to 1955 the Ethiopian government focused on the expansion of education, ignoring, in a way, syllabus and curriculum development and the quality of the existing teaching materials. Educational expenses rose from 600,000 byrr in 1942 to 19,000,000 byrr in 1958-59.

By 1959-60 the amount of students in state schools reached 250,000, including 50,000 women.

Ethiopian schools suffered greatly from the acute shortage of teaching material; secondary school teachers had to use British text-books. An exception to this situation was Eritrea, where primary schools actively used their own materials written in the local Tigrinya language.

For comparison: in 1943 there were 19,000 students in the country, in 1946 the number grew to 34,844. The structure of Ethiopian education was a hybrid of the British system with that of the neighbouring African countries Sudan and Kenya. It included three levels of the 4+4+4 pattern, where the first four
years covered the primary school, the second four years – secondary incomplete, the last four years
gave a complete the secondary education and graduates got a British secondary school certificate (A-
level). By the mid-1960s an Ethiopian secondary school certificate became valid.

In 1957 the first five-year plan of the country’s development was launched; it included planning
education (1957-62) too: the amount of schoolchildren was to grow from 35,000 in 1946 to 95,000
people in 1954-55. Nevertheless, the results of the African Education Conference (1961, Addis
Ababa), sponsored by UNESCO, revealed that Ethiopian education lagged far behind other African
countries. In response to this resolution, the Ministry of Education started expanding educational
facilities regardless of the actual financial situation. As a consequence, Ethiopia was forced to apply
to the World Bank for long-term loans.

The number of students of all levels grew from 196,000 in 1960-61 to over 1,100,000 by 1974-75.
And yet, Ethiopia could not meet the goals formulated at the African Education Conference. By 1974
only 12% of children of school age were able to get a primary education; secondary school graduates
were unable to find jobs; post-school unemployment reached 25% by 1974.

Vocational education and training was available for young people at all sorts of one-year training
courses and 3-4 year technical colleges, commerce lyceums, agricultural schools and teacher-training
colleges. In 1979-71 fifty institutions of this category admitted 10,000 students, one third of whom
were women. 90% of schools were financed by the central government; 10 % by the local authorities.

In 1963-64 the Ministry of Education changed the 4+4+4 system to 6 years of primary school+ two
years of secondary school (four years after the primary school). Children were admitted to school at
the age of seven. In 1967 the number of schools in the country amounted to 1,111 state schools and
774 private and church schools.

On the eve of the anti-feudal revolution of 1974 Ethiopia had 1321 state primary schools (13,300
teachers and 590,400 children). Most primary schools could not provide a complete educational cycle
because of a heavy drop-out of pupils who could not afford studying at school. Text-books used for
teaching were mainly British and American.

3. EDUCATIONAL POLICY IN 1974 - THE 1990s

After the deposition of the monarchy in 1974, the educational system underwent a serious
restructuring: all private schools were nationalized, the number of students grew from 224,900 in
1959-60 to 1,042,000 in 1974 -75, i.e. 15% annually. Within the period from 1975 to 1989 the number
of students increased by 12% annually, from 1,042,000 to 3,926,000.

The new educational system was structured in the following way: nursery school (in kindergartens, at
the age of four, for three years), primary school (from the age of seven, for six years), incomplete
secondary schools (the years seven and eight), complete secondary (the years nine to twelve),
vocational technical education (from two to four years on graduation of either of the secondary school
levels), higher(tertiary) education, post-graduate education. School education was free, higher
education was fee-paying (poorer students got a scholarship).

In 1975-77 an all-nation campaign – Development through Cooperation- was in full swing. Its
objective was extirpation of local illiteracy; as a result, illiteracy fell from 93% to 37% in 1983. For
this achievement Ethiopia was awarded several prizes and diplomas of UNESCO as well as other
international institutions.
In the period between 1975 and 1989 the amount of pupils from seven to sixteen years of age rose by 12% annually, which totaled to 35%. This growth was not financially substantiated, though.

Moreover, the new regime introduced a new “shift” system, with schoolchildren studying either early in the morning or later in the evening. It is this “evening shift” education that became a distinctive feature of the 1974-1991 periods.

4. EDUCATIONAL POLICY UNDER THE FEDERAL GOVERNMENT SYSTEM (FOM 1991 TO DATE)

The anti-feudal and anti-monarchical revolution in Ethiopia- one of the most radical in Africa- failed to solve either national or social and economic problems of this oldest African country. The controversy between the ruling Workers’ Party of Ethiopia and its growing opposition aggravated on the basis of the latter’s disagreement with the social and economic policy of the government. The dramatic exacerbation of the situation brought about the fall of the government headed by Menghistu Haile Mariam. The new government was headed by the leader of Ethiopian People’s Revolutionary Democratic Front (EPRDF) Meles Zenayi, who proclaimed introduction of democratic principles to the ruling system. He said, “Democracy is the only way to unite the country”.

The recent educational policy in Ethiopia has been in effect since 1994, its main objective being introduction of native ethnic languages teaching in primary schools. According to the new Constitution, Ethiopia has no state language; Amhar and English are working languages. In 1994 the country started experimental teaching in fourteen Ethiopian languages, but, as the languages differ in the degree of lexical development, there were serious problems with the new syllabus design.

The general pattern of Ethiopian education has changed drastically: the amount of students grew from 35% in 1990 to 70% in 2004; educational expansion was due to the increase in foreign aid and loans; the total number of people with higher education changed from 18,000 in 1991 to 147,000 in 2003. The sphere of private education expanded from several private schools in 1996 to 35,000 people in 2004. By 2004 there were 37 private colleges to continue students’ education.

Another noticeable aspect concerned female students in higher education; their number reached 50% in private institutions and 30% in state and regional educational establishments. The major part of schooling expenses comes from the inner state resources, but there is foreign assistance too, mostly American and Swedish.

According to the World Bank statistics, 20% of the total educational expenses went to higher education, which has also stopped being a monopoly of the state and 25% of students in the country graduated from private institutions, women being 50% of their number. In the academic year 2002-3 the Master’s degree was awarded to 1915 students.

Higher educational institutions in modern Ethiopia are: The University of Addis Ababa, founded in 1950 as a university college, since 1961 it has got the status of a university; it comprises faculties of natural sciences, technology, law, and medicine; colleges of agriculture, humanities, veterinary and a higher school of pharmaceutics. There is a part-time evening department. The Polytechnic Institute of Bahir Dar built in 1963. The Agricultural Institute of Jimma founded in 1966; the Agricultural University in Alem Maie, institutes and colleges in Ambo, Awasa, and Debre-Zeit.

In 2007-8 there were 22 state universities, of which the University of Addis Ababa is the biggest, and 51 non-governmental institutions operating on day, evening, summer (krint) as well as distant
learning basis. The total number of students amounted to 270,356.

The National University includes agricultural stations in Debre Zeite, Djidjiga, Alem-Maie and Gode; the Research Institute of Ethiopian studies founded in 1963; the Geophysical observatory (1958), and the Forestry Institute (1962). The Ministry of Home Affairs affiliates an Institute of Map-making and Geography (1954); the Mining Ministry has a Department of Geological Studies (1968). Agricultural Institute (1966), a Research African Centre of Cattle Breeding (1974) and Ethiopian Geological Service (1968) are located in Addis Ababa. The Research Institute of Tropical Agronomy with an experimental station (1967) are situated in Awasa. The Research Coffee Selection Station is organized in the environs of Jimma. In 1984 the Institute of Ethiopian Ethnicities was founded.

The following table gives a glimpse of education structure in the academic years 2003/4-2007/8:

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<td>First cycle</td>
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<td>(1-4 years)</td>
<td>6.4 ml</td>
<td>8.1 ml</td>
<td>9.6 ml</td>
<td>9.7 ml</td>
<td>10.7 ml</td>
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<tr>
<td>Schoolgirls in%</td>
<td>42%</td>
<td>44%</td>
<td>45.5%</td>
<td>45.9%</td>
<td>46.5%</td>
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<td>Second cycle</td>
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<td>(5-8 years)</td>
<td>3 ml</td>
<td>3.4 ml</td>
<td>3.8 ml</td>
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<td>First cycle</td>
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<tr>
<td>(9-10 years)</td>
<td>685.9 thousand</td>
<td>860.7 thousand</td>
<td>1.066 ml</td>
<td>1.23 ml</td>
<td>1.308 ml</td>
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<tr>
<td>Schoolgirls in%</td>
<td>35.3%</td>
<td>3.7%</td>
<td>36.4%</td>
<td>37.5%</td>
<td>39.4%</td>
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<td>Second cycle</td>
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<td>(11-12 years)</td>
<td>94.6 thousand</td>
<td>92 thousand</td>
<td>123.6 thousand</td>
<td>175.2 thousand</td>
<td>193.4 thousand</td>
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<tr>
<td>Schoolgirls in%</td>
<td>35.3%</td>
<td>3.7%</td>
<td>36.4%</td>
<td>37.5%</td>
<td>39.4%</td>
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<tr>
<td>Number of students</td>
<td>98.4 thousand</td>
<td>138.4 thousand</td>
<td>17.1 thousand</td>
<td>203.9 thousand</td>
<td>263.1 thousand</td>
</tr>
<tr>
<td>Female students in %</td>
<td>20.8%</td>
<td>24%</td>
<td>24.8%</td>
<td>26%</td>
<td>24.1%</td>
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<tr>
<td>Female</td>
<td>6.7%</td>
<td>9.2%</td>
<td>10.07%</td>
<td>10.01%</td>
<td>10.5%</td>
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<tr>
<td>postgraduates in %</td>
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<tr>
<td>Post-graduate leavers</td>
<td>736</td>
<td>1126</td>
<td>1388</td>
<td>2671</td>
<td>2664</td>
</tr>
<tr>
<td>Female leavers in %</td>
<td>7.1%</td>
<td>9%</td>
<td>9.8%</td>
<td>9.4%</td>
<td>10.7%</td>
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REFERENCES


THEORY AS A BRIDGE BETWEEN EDUCATION, RESEARCH AND DEVELOPMENT IN HUMAN-COMPUTER INTERACTION AND COMPUTER VISUALIZATION

Vladimir L. Averbukh
Institute of Mathematics and Mechanics, Ural Branch of the Russian Academy of Sciences
16, S.Kovalevskaja street, 620219, Ekaterinburg, RUSSIA

Abstract

The theory is necessary to analyze an existing state of the practice, to train new professionals and to use in the practical work. One may find two main approaches to a choice of foundations for the theories of the computer visualization and human-computer interaction which can be roughly described as psychological and semiotical. The paper contains discussion on the theories of computer visualization and human-computer interaction and considers the role of the theories in education and development processes.

Key words: Computer Visualization, Human-Computer Interaction, Psychology, Semiotics

1. INTRODUCTION

The discipline of Human-Computer Interaction has been developed over the past fifty years since significant number of the computers work stably. Now a considerable part of all world programmers work in HCI domain. If in the first decade of HCI history the number of active users was near thousands now the possibility of human-computer interaction are available to some extent to almost all population of Earth.

At the same time, the situation of human-computer interaction and visualization is ambiguous. In some cases, the computerization of management processes leads to increasing of queues and problems in institution activities. Some of interfaces applied in mass services are inconvenient. They force people to spend considerable effort to learn and to use, and even lead to serious stress in some cases. The problems are related, in our opinion, the inadequate regard of what is traditionally related to human factors. Below, referring to the design of human-computer interaction and computer visualization we’ll mean design of “the human factor” elements for visual interactive systems.

The analysis based on the theory (or more exact theories) of human-computer interaction and computer visualization must develop to overcome the problems. And these theories are under developing. A lot of conferences devoted to visualization and HCI hold yearly. In many universities around the world special departments and research and educational institutes on Human-Computer Interaction and Computer Visualization have established. Note, however, that some practitioners do not know anything about the results of the research. Other practitioners expect from the theory only councils on design of the interface which is reduced to a choice of colors or placement of visual objects on the screen. Sometimes they said that there is no theory in human-computer interfaces and visualization, or that such theories are not necessary, in principle, because everything works fine without any theories.
On our opinion the theory is necessary, firstly, to analyze an existing state of the practice, secondly, to train new professionals and thirdly, (and this is the main) to use in the practical work. Without the theory there are no reliable methods of adopting and sharing really valuable experience, instead of the casual ideas which have appeared in connection with a certain level of hardware for interfaces and Computer Graphics and/or Software Engineering.

The scientific theory should satisfy some requirements. (See also (Workshop at Visweek, 2010).) Among them there are the discipline structurization, supporting of analytical functions in its frameworks, and the prediction of new phenomena. One may say about the explanatory and predictive force of the theory. Thus, on the basis of the satisfactory theory (at a given period of the discipline development) one may analyze and explain any known phenomena, predict the emergencies of new phenomena, concepts and facts, carry out a systematic description of the discipline as a whole. Thereby there is a possibility to fix available achievements, to transfer them in courses of study, to create conditions for the further development of the discipline. An important result of the satisfactory theories of HCI and Computer Visualization should be a scientific basis for the quality design, the development and the evaluation of HCI and visualization systems. Below we‘ll consider approaches to the theories of human-computer interaction and visualization which in our opinion form a base of designing, developing and education in this area.

2. “ACTIVITY” APPROACH TO THEORY OF HUMAN-COMPUTER INTERACTION

Dealing with interfaces it is naturally to pay attention to psychological Activity theory developed in Soviet Union in the middle of the XX century. Activity theory is connected, first of all, with names of A. Leontev and S. Rubinshtein. (Leontev, 1978 and Rubinshtein, 2005) The “activity” approach, actively developed since the late 80s, is one of the main approaches to the theory of human-computer interaction. The set of important papers on this subject was published beginning from the 80th and 90th years (for example Kaptelinin, V., 1996; Nardi, B., 1996; Kaptelinin, V. 2012; Rogers, Y., 2004). Just recently the monograph by Victor Kaptelinin and Bonnie A. Nardi was published (Kaptelinin, V., & Nardi, B., 2012.).

When acquainting with Activity theory it seems that the theory was specially created in 30-s‘ year of the XX-th century for the future human-computer interactions so exactly its ideas are fit on the specifics of HCI. Activity theory can be supported by results of Psychophysiology theory developed about the same time. So this psychophysiological “reinforcement” forms psychological and physiological basis of the theory of HCI. The Activity is considered as the conscious and purposeful process. The analysis of activity has to forego interface design. This analysis includes revealing of the activity purposes and ways of this purpose achievement, a determination of an understanding level for this purpose by a person and a definition of activity motives.

During the activity an action is realized, when the partial result, which it is reached, becomes a direct objective of the subject, and ceases to be realized when the target moved on and the former effect becomes only way to carry out other actions directed at a common goal. The action directed on the small purposes, is switched off from consciousness, passes in the subconscious. (Rubenstein, 2005)

One of the basic principles of activity theory is the hierarchical structure of activity. Activity theory differentiates between processes at various levels (or, rather, groups of levels), taking into consideration the objects to which these processes are oriented. Activities are oriented to motives, that is, the objects that are impelling by themselves. Each motive is an object, material or ideal, that satisfies a need. Actions are the processes functionally subordinated to activities; they are directed at
specific conscious goals. According to activity theory, the dissociation between objects that motivate human activity and the goals to which this activity is immediately directed is of fundamental significance. Actions are realized through operations that are determined by the actual conditions of activity. (Cited by Kaptelinin V., 1996) Thus, the hierarchy is established: activity – the realized actions – operations. The activity is divided into a set of conscious and motivated actions which, in turn, implemented a set of operations.

All activities of the system and its various changes one may present entirely in terms of results, which further emphasizes its critical role in the behavior of the system. This activity can be fully expressed in the questions, reflecting different stages of the system:

- what the result should be obtained?
- when the result should be obtained?
- whereby (what mechanisms) the result should be obtained?
- how the system verifies the adequacy of the obtained result? (Anokhin P., 1978)

Passivity of the dominant excitation, i.e. the dominant of the moment, can be considered as a source of passivity of perception and, consequently, a false perception. At the same time, this passivity provides stability of attention and a structurization of the received information. (Ukhtomsky A., 2002) Activity to be effective and adequate, should always be corrected and be free all time of predefined schemas. (Bernstein N., 1947) However, the goals in the framework of an interface should not be achieved through a complex action, becoming an autonomous activity. The task of the designer is to minimize the complexity of the activity within the interface and to provide systematicity of interfaces. One may consider systematicity of interfaces as using similar actions to achieve the similar goals in different interface actions. Design of activity, actions and operations requires knowledges on the areas which can be attributed to Psychophysiology. Also it is important to take into account psychomotor factors of interface actions. Simplicity and ergonomics are especially important for mass interfaces.

The activity approach to designing human-computer interaction involves the analysis of the problem and description of action to tackle this problem. These activities consist of sets of conscious, motivated by goal achievement actions. In turn these actions are reduced to sets of operations. At each level of the hierarchy, a designer needs to reveal and to define clearly objectives, which are related to the implementation of activities. The design of operations needs to pay attention to the principles of systematicity. The development of mass and professional interfaces requires solutions of a number of additional problems.

Let's consider “instrumental” interfaces in connection with “Activity” approach.

One may understand instrumental professional interfaces as interfaces for practitioners in the areas where a substantial part of the activities is interaction with people. That is, we consider the interfaces for various categories of clerks, health workers, salesmen, using them to perform their functions, as a tool their professional activities.

The mass instrumental type of interfaces includes “nonprofessional” general-purpose interfaces, using, for example, for tickets reservation systems, for health, banking, social and public services, etc.

“Recreational” interfaces (that is interfaces using in social networking nets, communicating services, games, and so on) are outside of our attention. Also we don’t consider interfaces for professionals dealing within information technologies. To a marked degree this limitation is connected with quality
and usability criteria applied for these interfaces, such as time spent on the page, the number of “clicks” on some image, subjective evaluation of a small number of respondents, etc. These criteria are not suitable for “instrumental” interfaces. The quality criteria in this case should be based on evaluation of user activity results.

In the case of mass instrumental interfaces quality can be measured, taking into account the time spent by users to obtain the result and the level of stress during the result was reached. In this regard, laconic interfaces with the minimal requirements to user memory and attention are necessary. Hence we need to save and restore the current interface state and context. Interfaces that use the principles of the menu or any of the programming techniques are unsuitable here.

For professional instrumental interfaces the quality criterion may be measured through the number of people satisfied with the work of the institutions during some period of time. That is, we consider the number of customers, patients, clients, etc. who reached result satisfying them and not received serious stress. Thus, the level of stress of professionals using the interface is measured indirectly.

Stress may be measured both by interviews of interface users or visitors of the institution and by laboratory and “field” studies of their physiological indicators that reflect the level of stress.

The size of time period depends on the term demanded for the decision of the given problems, for example, in any cases it is a working day, in any – a week, a month or even a year.

In case of “mass” interfaces the designer, formulating requirements to the interface, participates in formation of the future user activity. The user can't refuse to use the system because by using the interface she/he gets access to vital services, resources, information, etc. “Mass” interfaces have been intended to a “weak unit”. That is a person with minimal capacity to perceive and analyze information has to use this interface successfully.

In the case of “professional” interfaces the goal of user activity is predetermined beforehand. The problem under decision dictates the requirements for the interface generally. A “professional” also (as a user of “mass” interfaces) can't refuse to use the interface because her/his activity is strictly regulated.

The designer of the interface should study the goals and features of the given activity. She/he must not deform the activity and/or bring additional complexities to it. In our opinion it should be refused to use any intricate tuning in “professional” interfaces. Altogether it should avoid to use anything that may be considered as programing because programing is another activity supplementary to the main duties of a “professional”.

Within frameworks of the activity a “professional” (that is a clerk, a health worker, a salesman) deals with a certain set of entities. For example, she/he handles personal documents, fills the form of internal documents, interacts with visitors, and sometimes takes the money and makes bills and receipts. Computerisation adds a new type of activity and creates a new entity - the human-computer interaction. One can watch examples of interfaces that continuously switch the clerk attention, prevent to interact with visitors, overloading her/him by additional tasks.

It is necessary to analyze the activity generated by the “instrumental” interfaces from the standpoint of a possible “redundant” and “insufficient” level of computerization. In general it is necessary to reduce (instead of to increase) the number of entities that a “professional” has to process. That is why the designed interface should assume completely the functions of processing one or another entity. Then the interface will not be a new, additional and complicating entity in professional dealing.
Designing “instrumental” interfaces is inseparable from generic issues in the institution where interfaces will be applied such as the correct organization of operations and document processing, data confidentiality and so on. These solutions tend to lie outside the competence of designers. But without them, all efforts can go down the drain.

3. THE BASES OF THE COMPUTER VISUALIZATION THEORY

Other important task is to format the computer visualization theory.

Officially, as an independent discipline Computer Visualization traces its history to 1987 by Special Issue of ACM SIGGRAPH Computer Graphics “Visualization in Scientific Computing”. (Visualization in Scientific Computing, 1987) The description Computer Visualization as the independent discipline summed up the great practice of Computer Graphics since beginning of 60-th. In this issue the main conceptions of the new discipline were defined. The visualization is considered as a method of computing. It transforms the symbolic into the geometric, enabling researchers to observe their simulations and computations. Visualization offers a method for seeing the unseen. The goal of visualization is to support the analysis and interpretation stages in framework of the computer modeling cycle.

One of the most popular approaches to a choice of foundations for the theory of the computer visualization is based on the theory of perception of the visual information. This approach is considered in in a set of publications (for example, (Workshop at Visweek, 2010)). Note in this connection the publication of the research group B. Tversky focusing on the perception of how individual elements graphic display (color, shape, texture, etc.), and integrated graphical output (including animation). (Zacks, J., Tversky, B 1999; Tversky B. 2001; Tversky B., Morrisony J.B., Betrancourt M., 2002; Tversky B. 2005). The example of the interesting researches on this topic see also in (Ziemkiewicz Caroline, Kosara Robert, 2010).

Gestalt theory is widely used in the design of the images on a computer screen for human-computer interaction and computer visualization systems (for example Graham L., 2008; Fraher R., Boyd-Brent J., 2010 and Soegaard M., 2011).

Thus, we have the theoretical bases for the correct designing of visualization from positions of the image perception.

However, the perception is only the first stage of the interpretation of visual images. Exactly interpretation is the main task of computer visualization in the computer modeling cycle. The research of interpretation is traditionally held in the framework of semiotics.

4. A “SEMIOTICS” APPROACH TO THE THEORY OF VISUALIZATION AND HUMAN-COMPUTER INTERACTION

A “semiotics” approach to the theory of visualization and human-computer interaction began to develop in the 80-th years of the twentieth century. The statements of the classical semiotics were used to describe visual sign processes in connection with a computer graphics and visualization. Our researches on problems of the theory of computer visualization and computer metaphors are based on the semiotics approach. It is shown that the human-computer interaction and visualization have a semiotic nature. The conceptions of a visualization language and a figurative (visual) text described on this language are considered. The computer metaphor is considered, as a basis of the visualization
language. The semiotics analysis of computer metaphors allows to evaluate known metaphors and to search new ones for specialized visual systems (Averbukh V.L., 2001; Averbukh V.L., 2005; Averbukh V. et al., 2007; Averbukh V. et al., 2008).

Thus, the semiotics analysis can be an important tool for the visualization systems design and development.

Semiotics, dealing with sign systems and with practice of their functioning, may be considered as tools for descriptions of theories of HCI and Computer Visualization just as Mathematics is tools for descriptions of Physics Theories.

The obvious semiotic nature of the human–computer interface and visualization allows to reveal sign systems that determine interactions, visualization and communications. Human–computer interaction in this connection may be described precisely as sign process. Visualization also may be described as sign process similarly to human–computer interaction. Processes of human computer interaction and visualization contain user interpretation of visual and dialog objects as their essential part. In turn the process of sign interpretation is researched in frameworks of semiotics. That is why one may consider semiotics as the base of theories of HCI and Computer Visualization.

If human–computer interface and visualization have the sign and language nature then each interface and visualization system contains the language as its core. The language in this case is understood as the systematrical description of entities under consideration, methods of their representation, modes of changes of visual display, as well as, techniques of manipulations and interaction with them. The language (or rather a base sign system) is built upon some basic idea of similarities between application domain entities with visual and dialog objects, i.e., upon a computer metaphor (that is interface metaphor and visualization metaphor).

We consider the conception of “metaphor action” that is important for the analysis of computer metaphor. This conception has formed a basis for the analysis actions of concrete interface and visualization metaphors. The analysis has to reveal criteria for evaluation of metaphors and for its searching and selecting. Computer metaphors promote the best understanding of interaction and/or visualization semantics, as well as provide visual representation of the appropriate objects and determine the user's manipulations set. A metaphor, considered as a basis of the sign system, underlies in a basis of an interactive visualization language in its turn.

The understanding of a metaphor as a sign system gives us a basis for evaluations of metaphors offered in concrete cases. If the used affinity (comparison or a set of comparisons) matches the systemness requirements, then we may speak about existence of a useful metaphor. “Semiotic” approach to HCI and computer visualization theories makes it possible to choose computer metaphors as the key point of HCI and computer visualization systems design and development. Analysis of metaphors is the useful tool for this design. Also the analysis forms the set of criteria for evaluation of metaphors. One can choose a metaphor, as well as construct on its base a correct set of views for a visual interactive system. Criteria of a choice may be considered as criteria of metaphor quality.

5. CONCLUSION

Thus, one may find two main approaches to a choice of foundations for the theory of the human-computer interaction and computer visualization which can be roughly described as psychological and semiotics. On this basis one may construct theoretical foundations of ergonomics for interfaces and visualization design. Also it is necessary to study the principles of design as an integral part of the
study of those aspects of psychology, which should be used in the development of human-computer interaction and visualization systems. Principles of Art Design are largely based on the principles of perception (but were not limited to). Interface Design principles are based on the universal principles of Design and Visual Arts, but are not limited by them. As usually in Interface Design only static conditions are considered. Even the dynamics of the transition from one view to another are understood poorly. All the more so, there are no recommendations about creation of dynamic visualization. In this plan the experience of the theory of cinematograph is important. One may use ideas of theory of cinematograph to design and develop human-computer interfaces and visualization. The semiotics approach to the cinematograph theory one may pick up from books and articles of Sergey Eisenstein, Victor Shklovskiy, Yuri Lotman. (Eisenstein S. 1949; Shklovskiy V., 1985; Lotman Yu., Tsivyan Yu., 1994). Understanding and analysis of film and animation meaning may be studied by the experience of Walt Disney.

Here are some of the work directions for professionals in psychology, semiotics, together with designers of interfaces. In addition, the adequate mathematical formalization is necessary for normal development of the theory. However, many are not clear. This work is far from complete. However, many are not clear. This work is far from complete.

In conclusion, we emphasize again that the theory is not needed for the theory, but we need the theory as a basis for designing proper human-computer interaction and visualization. Our ideal is to develop personalized computer systems that are configured for a specific user, considering features of her/his perception and thinking.

The meeting place of theory and practice is Academia, where it is natural to develop and study the theory for professional training of future developers.

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THE EXPERIENCE OF ORGANIZATIONAL STRUCTURE
AND ACTIVITY OF THE ACADEMIC INSTITUTION WITHIN
THE FAREASTERN BRANCH OF RUSSIAN ACADEMY OF SCIENCES

Natalia N. Maximova, Arkady L. Maximov
Scientific-Research Center “Arktika” FEB RAS, 24 Karl Marx Str., 685000, Magadan, Russia
E-mail: arktika@online.magadan.su

Abstract
The considered is the specialties of organizational structure and the fields of scientific activity performed within the state budget institution of Fareastern Branch of Russian Academy of Sciences that is mainly involved in fundamental research in the field of human adaptation under natural-climatic extremes. The information about the applied innovative elaborations in the field of creating noninvasive technologies of human health estimation and the special apparatus necessary for these purposes has been presented.

Key words: scientific institution, organizational structure, fundamental research, innovative elaboration

1. INTRODUCTION

The Scientific-Research Center “Arktika” of the Fareastern Branch RAS was adopted a successor of the Russian Part of the International Scientific Center “Arktika” formed with the Far East Branch RAS and the University of Alaska on the 28th of May, 1991.

The idea of creation of the new original scientific research organization that would involve studies in the field of ecology and physiology of humans in the North-East of Russia and Alaska, came true within the framework of development of international cooperation between the University of Alaska and FEB RAS. That idea appeared in the March of 1989 in the settlement of Provideniye in Chukotka during the international scientific medico-biological program of the transcontinental ski moving through Chukotka and Alaska performed by the Bering Bridge expedition headed by Dmitry Shparo, a famous Russian traveler and Paul Shurke, an American journalist (Fig. 1, 2). The expedition’s scientific results underlied the Center’s tasks.

In this regard on the 28th of May 1991 the Soviet part of ISC “Arktika” was formed as a scientific-research center of Fareastern Branch of Academy of Sciences of the former USSR. The American part was presented by the Russian Affairs Department, the University of Alaska (the USA). The scientific potential of the Center was formed on base of Applied Physiology Department of the Institute of Biological Problems of the North, Fareastern Branch of Academy of Sciences of the former USSR. There worked then 2 Ph. Doctors and 4 Candidates of Sciences. Now there are 3 scientific-research laboratories and a group in the structure of the Center that are situated in the cities of Magadan, Vladivostok and St. Petersburg. The personnel of the Center amount for 43 persons including 20 researchers of them 4 Ph. Doctors and 10 Candidates of Sciences.
The management and two scientific subdivisions of the Center, directly dealing with the above mentioned ecological physiology and adaptation research problems, are located in Magadan town. Besides this, in 1998 in St. Petersburg there was created another laboratory located on base of I.M. Sechenov’s Institute of evolution physiology and biochemistry. In 2003 within the institution of “Arktika” the laboratory for ecological neurocybernetics was formed in Vladivostok.

SRC “Arktika”, located in Magadan, in Russia’s northeast, is a single scientific institution within the Far Eastern branch of RAS which systematically studies adaptation and ecological physiology of natives, aborigines and new-comers that experience natural and climatic extremes of the Russian North-East.

Besides carrying its own scientific studies, Russian Part of ISC “Arktika” participated in providing Russian-American scientific contacts and international scientific co-operation between the organizations of RAS and scientific-educational centers of the USA. To aim the above issues, joint
contracts with scientific institutions of the USA were made, joint scientific projects were performed, and foreign scientists were hosted and assisted.

There is a post-graduate study attached to the Center, with full-time and postal tuition on physiology and ecology. It provides the possibilities to perform scientific research for submitting a thesis for a biological and medical degree.

2. SCIENTIFIC STUDIES DEVELOPMENT AND THE CENTER’S MAIN ACHIEVEMENTS

The main scientific interests of the Center have been focused on the problem of human adaptation in Russia’s northeast, on studying functional reserves and working capabilities as well as on carrying the complex investigation in the field of ecology and physiology of humans.

There are the following main areas of research:

- complex development of fundamental and applied studies in the field of morphophysiology, ecology of humans and animals, and elaboration of a medico-social base of vital activity for native and new-coming populations in the arctic and sub arctic zones of the Asian-Pacific region;

- development of mathematical models of functional states of a human at adaptation, life, and activity in extreme conditions.

The theme of the current research and developments is related to the priority fundamental studies adopted by the RAS Presidium Resolution. It is performed within the framework of the planned themes of the scientific-research works (SRW) funded by the state budget and adopted at Presidium FEB RAS and Division of Biological Sciences RAS.

The researchers of the Center participate in the federal programs entitled “Fundamental sciences – for medicine”, “Adaptation of peoples and cultures to the environmental changes, social and human-caused transformations” as well as in development of Conception for the Federal Law “About the grounds of the state policy of RF in the Extreme North regions and those equated with them”. Of note that the studies carried with the Center conform to the world level. The scientific co-operation with the Universities of the USA, Israel, Germany, China and others has been carried.

As outcomes of the research for the recent 10 years 20 monographs, methodical and teaching manuals have been published, 154 articles – in reviewed journals, of them 15 have been published abroad, 4 patents on invention have been awarded, 7 scientific-practical recommendations have been developed and applied in institutions of a Regional Health Care department to use them by physicians in practice.

Laboratory for Physiology of Extreme States

The Laboratory was founded in 1989 based on the Institute of Biological Problems of the North and became main scientific potential of the created Int. Sci. Center “Arktika”. The personnel amount of the laboratory has changed for the last 20 years and now it contains 20 people.

Main Scientific Research Areas

- Psychophysiologial mechanisms of adaptation;
- Physiology of extreme states;
- Systems for human vital activity supply and protection;
Mathematical models in physiology;

• Organization of behavior and higher psychological functions of a human.

The research of the Laboratory covers fundamental and applied grounds of human adaptation in natural and technogen environmental extremes based on studying mechanisms of regulatory changes of cardiohemodynamics, vegetative nervous system, thermoregulation, and mathematical modeling of physiological functional processes.

From June 2010 till November 2011 within the Institute of Medico-Biological Problems RAS (city of Moscow) there was carried the research on studying in model conditions the health state of human for the expected flight to the Mars. The crew of the examinees consisted of 6 voluntaries; of them 3 subjects were Russians, others were from different countries. The aim of the project was to explore the interaction of “human–environment” and to collect information about the health state and working capabilities of the experiment participants being in isolated environment for a long term (520 days) within the special hermocamera for the further real expedition to the Mars.

For the parallel control of the basic group health state, the satellite explorations were performed in different areas of the Earth where the people residing in their natural vital conditions were also examined. Every month the voluntary subjects in Russia’s cities of Moscow, Voronezh, Izhevsk, Yekaterinburg, Syktyvkar, and Magadan, as well as in Minsk (Belarus), Berlin (Germany), Plzen (Czech State), Almaty (Kazakhstan), and Toronto (Canada) were monitored with the same method.

Within the framework of the “The Mars–500” experiment, the researchers from the Laboratory of Physiology of Extreme States examined the voluntary residents of Magadan to study the parameters of the external respiration and cardiovascular activity functions as compared to those of the participants of the modeled flight to the Mars (Fig. 3).

Since 2003 within the Laboratory there have been carried the studies on psychophysiology of humans. A group of three explores psychophysiological mechanisms of adaptation in the children born from Russia’s northeast residents in the 1st–3rd generation being Europeans or Aborigines.
Principal results of scientific research

• Having examined aboriginals and new-comers of the North-East of Russia, it proved that migrants could not fully adapt even having resided in the North for 15-20 years. Moreover, the natives of these regions had similar effects. It showed that, in northern population the more severe environmental extremes, the fewer the persons with a high level of nonspecific resistance.

• On base of studying physiological mechanisms, the conception of integral marker for an organism’s nonspecific resistance was proposed. It enabled to develop a high efficiency method of express estimation of tolerance to hypoxia and prediction of functional abilities of humans under extreme environmental conditions.

• All the studies carried suggest that migrants generally experience four different periods when coming to the Extreme North-East of Russia. The first period presents quick instable responses activating the mechanisms of heat loss limitation. It lasts up to twelve months. The second period is latent adaptive changes lasting up to three years when adrenal and thyroid functions prevail and chemical thermoregulation becomes more effective. The third period observed for about three to ten years, is an adaptive stability. Lastly, the fourth period is a break-down and disadaptive pathology appearing after ten years. It is found that, for migrants aged before 50, the optimal duration of staying in the Extreme North is up to ten years, since the state of a completed adaptation never comes in them even fifteen-twenty years later.

• It found that, in residents of the Extreme North, the level of a cold resistance depends upon individual hypoxia resistance rather than the duration of residing in the North. Based on hand surface temperature changes occurring in response to rerespiration test, it is possible to make prognosis on an organism’s adaptation level to a cold and hypoxia factor.

• To study physiological mechanisms of adaptation to extreme conditions, the participants of alpine accent to the peak of Pamir (7134 m) and Mc Kinley (Alaska, 6193 m) were examined. Among them there were subjects with the damaged spinal cord (Fig. 5).

Fig. 4. Researchers from the “Arktika” are examining schoolchildren’s functional parameters.
The outstanding material that was collected during this expedition, allows understanding the mechanisms that operate the heart rhythm activity at a long-lasting redistribution of a blood flow in an upper part of the body. The data obtained can be used in a new sports area to be developed for disabled people as well as in aerospace medicine to correct a cosmonaut’s post-flight rehabilitation and to optimize the method of an exercise which human organs and systems undergo during long-term space flight exposures.

Fig. 5. Expedition to Mc Kinley that examined the disabled people’s physiological abilities.

- The research performed with the Laboratory, resulted in a development of an empiric formula to calculate an environmental resistance index and the method of selecting people for working in high latitude at the Extreme North environments;

- A region-related norm of reaction of functional systems developed for humans with uncompleted adaptation who has been residing in environmental extremes for a long time;

- Based on having studied more than 50 different morphofunctional parameters (Fig. 6, 7, and 8) shown by the aborigines and those born in the North from newcomers in the 1st–3rd generation being Europeans, we found that, nowadays in Magadan region the two mentioned populations have been forming the common model of convergent adaptation. Of note that, ethnic and natural-climatic profiles are no longer the leading factors in the body physiological changes due to the processes of metis people appearing and social-economic factors of their habitat. However, other northern regions still have their special adaptation models;

Fig. 6. Examination of the Aboriginal children residing in the remote settlement of Evensk.
Found that, the North born in the 1st–3rd generation European males demonstrate the series of parameters of cardiovascular and respiration systems, oxygen transporting and utilizing, and metabolism changes that have become closer to those parameters demonstrated by the aborigines. However the mentioned populations still have differences in the body morpho-somatometric characteristics whose change dynamics depends on the heredity rather than on the adaptive factors;

Our long-term research has shown that, the element status of Magadan town and Magadan region residents proved to demonstrate the elevated concentration in As, Mn, and Si but lower concentration in K, Na, Co, and Cu as compared to the averaged Russia’s values. The most pronounced excess occurred in Na, As, Si, and Mn while Cr, K, Se, and Mg were much in deficit.

Found that, the adolescents of pubertal growth period, residing in different areas of Magadan region under different levels of environmental extremes severity, have showed their specific profiles in personal and psychophysiological characteristics. Among them, those residing in the most remote and difficult-to-reach district of Severo-Evensk, have showed the more pronounced neurosis-like states, high levels of anxiety, psychoemotional instability, and functional lability. Besides, a number of cardiorhythm parameters were observed to highly correlate to the body psychophysiological characteristics while the structure of correlations reflects the special features of the adaptation changes as dependant on the adolescents’ sex, age, and the region of habitat.

A new conception of subdividing the areas of Russian Federation based on an integral estimation of a habitat discomfort level that accounts for potential disorders in humans’ health and adaptation abilities was elaborated (Fig. 9). A unified method of calculating an index of discomfort proposed as dependent on such factors as climate, geography, social-economic, as well as human-caused and medicobiological ones. The method enables, strictly scientifically, to make the subdivision of Russia’s areas with their specific environmental negative impacts.
Group for Somatometric Morphology

The Group was founded in 2008 on base of the Laboratory for Ecological Physiology and now consists of three persons.

Main Scientific Research Areas

- Mechanisms and naturally determined specialties of the North children and adolescents’ development;
- Problems of ecology, population biology, and adaptation of organisms to habitat.

Within the framework of the basic research areas the profiles of somatomorphic changes shown by the children, adolescents, and adults of Russia’s northeast have been studied in age- and gender-related aspects (Fig. 10). The study of anthropometric characteristics, physical capabilities, and cardiorespiratory system depending on sex, age, physical training level, and the term of residing in the North have been of special attention.

Principal results of scientific research

- Found that the process of growth in children, adolescents, young men and women of Magadan region has special region-related profiles, namely: asthenia of body composition, progressive decrease in weight, height, and physical development, increase in bronchial permeability;
- The region-conditioned norms for somatometric parameters have been developed for Magadan town children and adolescents. The scales for evaluating schoolchildren aged 7-17 have been proposed;
- For the recent decades, disproportional body composition towards the increase in leg length at decreasing body mass has been observed in aboriginal adolescents compared to migrated ones. That testifies to the process of asthenia, worsened physical development, and decreased functional reserves on the pat of the number of the body’s systems.

The special features of the external respiration function observed in the children and young males of Magadan region have been thoroughly studied in age-, season-, and sex-related aspect, and the region norms for them were published as scientific-practical recommendation for functionalist physicians.
Laboratory for Ecological Neurocybernetics

The Laboratory was created in 2003 and located on base of the Medical Unit FEB RAS in the city of Vladivostok. It was created to strengthen the Center’s innovative activity accounting for a close location of these territories enabling to perform high technology works on making experimental samples and treatment-and-diagnostic apparatus developed by the researchers of SRC “Arktika”. The personnel of the Laboratory are 6.

Main Scientific Research Areas

• Physiological mechanisms of the brain and other visceral system activities;
• Methods, devices, and equipment for studies in the field of neurophysiology and recovery medicine.

The study on elaborating theoretical grounds for monitoring of the individual health state and adaptability levels of the healthy and sick people based on the spectral analysis of human electroencephalogram and heart rate has been carried with the Laboratory.

Principal results of scientific research

• A new technology of health monitoring to be carried among the healthy and affected individuals has been developed to make a differentiated estimation for the wave characteristics of brain biopotentials which indirectly reflect the functional processes of somatic organs and systems (Fig. 11). Resulting from this was unified quantitative estimation of the health state that involves the characteristics of the tension in adaptation mechanisms, the level of expression of the visceral organ dysfunction, and it was developed the algorhythm for making topical diagnosis of the pathologies based on relationship between skin resistance to the current and the brain biopotential parameters;
• Using the method of revealing a location of the functionally similar areas, a sample of “Luchezar-AESR” hard & software complex was developed and has been prepared for the series production (Fig. 12). The complex is unique and has no analogues in Russia or abroad. On base of the complex, the technology of health monitoring has been realizing in either practically healthy or sick people, using the programmed system of forming the diagnostic medico-biological data. The mentioned technology was awarded a patent;
The hard & software complex of “Luchezar-AESR” was approved at mass examination carried among children’s and adults’ populations in the cities of Vladivostok, Magadan and central areas of Kolyma region.

For analyzing the brain potential rhythmical activity, a model of portable induction magnetoencephalograph (MEGI-01) was developed and is being used (Fig. 13).

All the hard & software devices were presented and awarded at various exhibitions in Russia and abroad (Moscow, Vladivostok, Khabarovsk, Peking, and Harbin). They were awarded a Diploma as a result of the competition for “The best diagnostic and improving technology of the recovery medicine”. They were also awarded a Diploma and a Medal for the participation in the Fifth International Forum, “High techs of the XXI century”, in Moscow. In 2003 the technology was enrolled in Russian Federation’s Health Care Ministry Reference Catalogue, “Diagnostic and improving technologies of the recovery medicine”.

**Laboratory for Comparative Ecology-Physiology Research**

The Laboratory was created in St. Petersburg in 1998 on base of I.M. Sechenov’s Institute of Evolution Physiology and Biochemistry, RAS. That enabled to carry a comparative ecological and physiological study of populations residing in the same geographical altitude but undergoing quite different natural, climatic, ecological, and social factors of Magadan, St. Petersburg, and Anchorage.

**Main Scientific Research Area** of the Laboratory is studying the profiles of intrasystem interinfluences of the central and vegetative nervous systems on the parameters of the brain cortex’s electric activity and the heart rate parameters depending upon constitutional-typing signs of humans, their habitat region, and the environmental factors impact. In 2008 within the Laboratory the Group of Human Physiological Reserves consisting of 4 people was formed to explore the possibilities of increasing human functional reserves and nonspecific resistance.

**Principal results of scientific research**

- With the Laboratory there have been revealed for the first time the special features of interrelation in brain’s alpha activity and slow-wave characteristics of human cardiorhythm in usual and hypoxia conditions, as well as the profiles of the adaptive intra- and intersystem changes in the body functional parameters showed by the populations residing in Russia’s Northeast and Northwest that is at the same geographical altitude;

- Based on the screening examination of the brain EEG in children and adolescents habiting the North of Arkhangelsk region, it has been established for the first time that, only 16 % of all the cohort of the examined schoolchildren showed the EEG amplitude-frequent and spatial parameters being within the European age norm, while the rest showed such disorders as inaccurate organization of the EEG pattern in frontal and temporal parts of the brain. Of note that the changes observed in the EEG structure of the 23% of the examinee, testify to the pronounced inhibition of psychic development that is accompanied by educational problems and affected adequate behavior. The similar picture can be
observed in aboriginal children of the Northeast of Russia. Thus, found that deficiency in the brain morphofunctional development showed by the children of the North, is an objective character accounting for up to 1.5 – 2 years and that is in correlation with the deficiency observed in hormonal and physical development;

- A new method of the brain tomography has been developed that enables to determine the cortical and subcortical structures which are a source of generation of paroxysmal discharges at functional disturbances, hypoxia exposures, epilepsy, and organic affections of the brain. Functionally immature or “pathological” patterns have been distinguished and neurophysiological mechanisms of their formation in the children of the North have been revealed. Found that the periods of autumn-winter and winter-spring have been the most negative for the North children. During these periods the brain hemodynamics functional parameters have rather wide range of values differing between individuals. That correlates to the atmospheric processes and high gradient of photoperiodical changes.

**Department for Scientific-Informational and Technical Supply**

The Department was formed in 1992 for optimizing and coordinating the scientific-research tasks and engineering. It involves 6 people.

*Main Activity Areas*

- Participation in research in the field of math modeling the human heart rate regulation and prediction of physiological processes, within the framework of the base line, “Mathematical models in biology”, of the scientific research activity;

- Providing scientific researchers with the necessary information, arranges scientific conferences and competitions, and assists in the scientific information exchange. The officials of the department form the library book fund;

- Performing mathematical processing of the Center’s research results, create the reference and statistic data base on adaptation physiology and social-ecological aspects of human life and activity in the North;

- Organizing the innovative and science-metrical research and preparing the proposal on patent defense of new scientific-technical resolutions (1-4);

- Arranging the system software supply, controlling the maintenance of labour protection rules and norms, providing the uninterrupted work of structural subdivisions, and supplying them with the necessary material and technical means.

*Principal results of activity*

- Within the framework of on-going research on mathematical modeling in physiological processes, it was showed for the first time that, adapting people depending upon their term of residing in the North demonstrate changes caused by the leading pacemaker, in the structure of cardiointervals’ generation. That fact is reflected in the character of stochastic model of heart rate and allows predicting changes in the cardiac activity of subjects undergoing the negative natural-climatic and human-caused extremes;

- The officials of the Department have created and been supporting the web site of Sci. Research Center “Arktika” at: <www.arktika.north-east.ru>.
3. CONCLUSION
The Institution of the SRC “Arktika” has a classic structure typical for scientific-research institutes RAS of the natural profile. In the perspective, in accordance to the recent Russia’s laws concerning the innovation activity within an academic sector and higher education, it is expected to create at them managing shareholding societies of open or closed types or those oriented towards marketing of the scientific elaborations to be presented as a commercial product. Of note that, some part of profits is to be returned back to the institution where an object of intellectual activity presented as a commercial product was developed.

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ACCESSION OF KAZAKHSTAN TO BOLOGNA PROCESS
Aizhan S. Salimzhanova and Amangeldy S. Salimzhanov
Postgraduate Education Department, Kazakh-British Technical University
Tole-bi street 59, Almaty, Kazakhstan

Abstract

The Republic of Kazakhstan is the first Central Asian country - a member of the Bologna Declaration and a full member of the European educational space. By joining the Bologna process, the participating countries commit themselves to carry out its basic parameters.

In accordance with the obligations assumed on accession to the Bologna Declaration, until 2020 Kazakhstan has to implement a number of activities. Bologna Declaration sets the adoption of a system of easily readable and comparable academic degrees based on two main cycles - undergraduate and postgraduate. In this regard, in 2004 there was introduced in Kazakhstan a multi-stage structure of higher and postgraduate education: bachelor-master-doctorate (PhD). Nowadays, this structure is accepted by new Law of the Republic of Kazakhstan "On Education".

Co-operation and integration into the world educational space - is one of the key aspects of Kazakhstan's policy and the development of the country's foreign policy.

Key words: Bologna process, Bologna declaration, accession of Kazakhstan, the world educational space

1. INTRODUCTION

In his speech Education Minister of Kazakhstan - Zhanseit Tuimenbayev noted that cooperation and integration into the international education space is a key vector of Kazakhstan’s policy, including foreign policy. Participation in the process should translate in higher quality of education services in Kazakhstan and recognition of Kazakhstan’s scholars and teachers worldwide. “Accession of the Kazakhstan’s education system into the Bologna Process is a tool to upgrade the quality of professional training and a precondition to strengthening Kazakhstan’s positions in the international education space”.

He noted that state expenses on education had been growing from year to year. In 2008, financing grew 2.8 fold as compared to 2004. This makes up 3.7% of the GDP and is compared to such nations as Germany, Slovakia, and Spain and is to reach the average world level of financing in the nearest years. About USD 4.6 billion is allocated for education purposes in 2009.

In 2004 Kazakhstan – in line with the Bologna Declaration – had introduced a multi-level higher education system, comprising Bachelor, Master and PhD studies. The most famous international initiative set up by President Nursultan Nazarbayev is the Bolashak Bursaries Program which covers tuition fees for outstanding students, enabling them to study at best universities of the world. For the 14 years, the Program has allowed more than 2000 people to obtain degrees from Harvard, Stanford, Cambridge, Sorbonne and other leading schools. In 2009 five national universities of Kazakhstan will be accredited with international agencies based in Europe and the USA.
In connection with accession of Kazakhstan to the Bologna process and the urgent need to ensure Kazakhstan higher education with international standards, our universities are looking for effective ways of integrating into the international educational space.

2. THE BOLOGNA PROCESS AND KAZAKHSTAN

The purpose of the Process is to create a European higher education area by making academic degree standards and quality assurance standards comparable and compatible throughout Europe, in particular under the Lisbon Recognition Convention. It is named after the place it was proposed, the University of Bologna in Bologna, with the signing in 1999 of the Bologna Declaration by Ministers of Education from 29 European countries. This was opened up to other countries signatory to the European Cultural Convention of the Council of Europe.

Modern large-scale modernization of Kazakhstan's education system began with the Kazakhstan’s accession to the Bologna process, which highlighted the problem of creating European higher education in the region as a key moment for the development of citizens’ mobility, their being demanded, the global development of the continent, according to which it is necessary:
- to establish a system of common academic degrees, which will contribute to the formation of a single European market of skilled labor, as well as the international competitiveness of European higher education;
- to transit to a two-level system of higher education: Bachelor (at least three years) and Master;
- to introduce a system of credits to meet the evaluation mechanisms. The system of credits - example is the ECTS (European Credit Transfer System) – must facilitate the mobility of students.

The new system of learning attracted scholars and leaders of Kazakhstan by the fact that its foundation was based on the ideas of an American educator John Dewey. Under this approach, the student should be taught not the sum of knowledge but the ways of thinking (theoretical, dialectical, logical, analysis, synthesis, system approach), to develop creative skills (ability to apply knowledge learned in all situations, including an independent formulation of the problem, as well as search of new ways of solving problems), to improve professional skills. In other words, "... in the course of education it was necessary to make the transition from the flow of knowledge and skills to the development of abilities."

Analysis of the early years of Kazakhstan’s universities in the credit system has shown that the transition to an innovation paradigm is not possible without a substantial reform of education. First, the relationship between teachers and students should be partnerships of joint activities. Second, the approach to the supply of universities with information resources is required to be changed. In terms of innovative learning information resources have to become virtually limitless. Students and teachers should have unrestricted access to them.

The results of independent studies carried out in Kazakhstan under the leadership of P. Dobryaev in 2008 under the program "The opinion of students and teachers about the practice of implementing the credit system at universities " can not only make some positive conclusions concerning the introduction of credit system, but also identify the problem areas:

- among students and teachers the most part are those who believe that the training, conducted under the credit system, is effective. The work of advisors (teachers of the department, assisting the learner to the appropriate specialty to choose the trajectory of learning and mastering the curriculum during the training period) and the Office of the Registration (a service dedicated to the writing of students
taught discipline and registering all of their academic achievements during the entire period of study), most of students and especially teachers evaluated mainly on the "very good" and "good"; - the vast majority of students and teachers expressed satisfaction with the available scientific, educational, methodological and logistical support of credit system.

Along with this the system of higher educational establishment and the nature of its external interactions should be reviewed. However, the general attitude of students and teachers to the introduced credit system of education continues to be controversial. Most of them estimate this system as "satisfactory", half of the teachers and a smaller proportion of students still give preference to a linear system of training. A substantial proportion of students and teachers do not accurately imagine a specific credit system and the main purpose of its implementation in educational practice.

“Development of international ties of Kazakhstan’s universities with foreign universities lays foundation for joint educational programs. First of all, I am talking of double-diploma system. Currently, 50 universities of Kazakhstan are implementing double-diploma projects in partnership with leading universities of Great Britain, Spain, Czechia, Germany, the USA and some other countries”.

The Minister reminded that at the international Bologna Process forum held in Kazakhstan February 5-6 under the aegis of the Council of Europe the attendees lauded education reforms being implemented in Kazakhstan. The parties outlined major vectors of introduction of the Bologna Process principles.

When talking to the local press, Minister Tuimenbayev noted that “Kazakhstan had been invited to the Bologna Process ministerial conference to be held in Vienna in 2010. We plan to be full-fledged participants of the Bologna Process. To this end, preparatory works should be carried out. In terms of legislation everything is ready”.

“We are happy to receive the Kazakhstan’s delegation. The fact that Kazakhstan is attending the event among the 46 nations that are part of the European higher education space testifies that your country supports and consolidates cooperation in this realm”, said Education Minister Frank Vandenbroucke of Belgium.

Kazakhstan’s part in the Bologna process will enable home universities to bring their curricula in line with the European standards. It will also make Kazakhstan qualifications acknowledged, two-diploma education available, Kazakhstan diplomas convertible in Europe thereby availing our graduates of an opportunity to be job-placed in any state of the region.

To make this happen, Kazakhstan higher education has introduced a three-level model of specialists’ training “bachelor – master – PhD”, a number of universities implementing a crediting technology of education has increased, 25 universities have signed the great Charter of Universities (Bologna) underpinning the Bologna process.

International ties with far-abroad universities are extending, by date 37 home high schools are doing a two-diploma program. In the past three years four universities got international accreditation. For the moment more than ten universities, including 5 national ones are being accredited with foreign agencies.

From 2009 the republic has been tapping one of the tools of the Bologna process – the Diploma Supplement enabling graduates to work in any European state. The purpose of advancing into the international educational space is to make Kazakhstan higher education satisfy the world standards.
3. CONCLUSION

To sum up, the Bologna Process is an association of more than 50 countries (including almost all European), creating a unified educational space. All in all, Kazakhstan possesses the required conditions to develop good education on all levels, accessible to all.

Kazakhstan’s accession to Bologna process would stimulate our education’s streamlining, opening up new education opportunities, enabling participation of RK universities in EEC–funded projects, student and teacher swaps. At present national education system is basing on International standards, adopting overseas education modernization experience.

The Republic of Kazakhstan has successfully implemented the best recognized and most widely spread in the world model of specialists’ training. Now methodic and systematic work to improve the content of educational programs is carried out for each of the three levels. The credit technology of education has been introduced to ensure the international recognition of the national education programs, to provide students and faculty with academic mobility opportunities, as well as to improve the quality of education. Universities of Kazakhstan have become really involved into this process since it gets us closer to the Bologna Declaration. The rapprochement of Kazakhstan higher education to Bologna process. Currently, Kazakhstan is focused, coherent work on the rapprochement of Kazakhstan higher education with the educational systems of member countries the Bologna process. Each year, increasing public spending on education. For example, in 2008 expenditure on education increased by 2.8 times compared with 2004 and amounted to 4.7 billion dollars (558.5 billion Tenge). Their share in total GDP is 3.7%.

All Central Asian nations intend to bring higher education closer to market requirements. The expected results are that these processes have to occur in the countries with a higher cost of education, such as Kazakhstan. However, practices show quite different trends, especially in science and R&D areas with an urgent need to improve the situation and some optimistic promises based on the new law on Science.

REFERENCES


SOME REMARKS ON TEACHING CHILDREN WITH SPECIAL EDUCATIONAL NEEDS IN POLISH PRIMARY SCHOOL

Agata Buda, Anna Wlodarczyk- Stachurska and Joanna Wojton- Rzeszowska

The Department of Philology and Pedagogy, The University of Technology- Radom,
Primary School no. 3- Skarzysko-Kamienna, Poland

Abstract

The aim of the article is to present the authors’ experience in teaching children with special educational needs. There is a description of working with both physically and mentally handicapped pupils. Among them there are: autistic children, children suffering from infantile paralysis and with Down’s syndrome, as well as pupils with mental disability in a light and moderate degree. Among the methods that are used in the classroom are: the Method of a Good Start (M. Bogdanowicz), the method of Developing Exercise (W. Sherborne), the method of Edu-K (P. Dennison). The children learn in mixed classes, with healthy peers, accompanied by two specialists: the lead teacher and the specialist in education of children with special educational needs. The article presents also great effects of coexistence of the two groups of pupils that work in polisensoric classrooms, language laboratory and use the interactive board.

Key words: disability, mixed class, qualified teachers, methods of work with children with special educational needs

1. INTRODUCTION

In Poland there exist different kinds of educating institutions, among them, the schools in which mentally and physically handicapped children are taught. Primary School number 3 in Skarzysko-Kamienna, Poland, named after Henryk Sienkiewicz, is one of them; there are 5 mixed classes, in which various kinds of educational aid is needed to satisfy all the participants of the educational process. It is widely believed that teaching young learners is a very satisfactory and rewarding, but, at the same time, mostly demanding task. On one hand, young children have no difficulty in learning different subjects (among them a foreign language), as they are eager to imitate various sounds, words and patterns of behaviour (Harding 1970: 144)28. On the other hand, the diversity of factors influencing learning (mental and physical diseases, social conditions) stand on their way to achieving any goal successfully. It is a real challenge for the teacher to cope with any difficulties he or she encounters in the educational process.

28 David H. Harding also points out that one of the most important factors that facilitate learning at the very early age is that the organs of speech are moulded quite easily in the childhood, which helps the children to acquire unfamiliar sounds of a foreign language more quickly (1970: 144).
Teaching children with special educational needs attending the above-mentioned primary school is two-faced. The advantage is that all the students learn naturally and subconsciously. This thesis can be supported by the statement by Ryszard Wenzel, who claims that

[children possess] natural drives to learn and create in a direct contact with the surrounding world, curiosity and imagination being the most characteristic features of […] the motivation. […] children are not aware of these drives, so in this way the notion “natural” becomes associated with “subconscious” (2000: 98).

A great disadvantage in teaching children in the primary school is the social condition and awareness of the majority of families. As teachers, we face various difficulties in this field. Among them there are:

- a high rate of unemployment,
- poorly educated parents,
- lack of cooperation with school teachers.

2. CHARACTERISTICS OF CHILDREN WITH SPECIAL EDUCATIONAL NEEDS

There is a diversity of individual needs of children in our school. Some of them are just physically, some are mentally handicapped. Among them there are: autistic children, children suffering from infantile paralysis and with Down’s syndrome, as well as pupils with mental disability in a light and moderate degree. Among the methods that are used in the classroom are: the Method of a Good Start (M. Bogdanowicz), the method of Developing Exercise (W. Sherborne), the method of Edu-K (P. Dennison). The children learn in mixed classes, with healthy peers, accompanied by two specialists: the lead teacher and the specialist in education of children with special educational needs. The article presents also great effects of coexistence of the two groups of pupils that work in polisensoric classrooms, language laboratory and use the interactive board.

3. ELEMENTS OF METHODS OF WORK IN THE CLASSROOM

3.1. The Method of a Good Start.

One of the methods that are used in working with children is the Method of a Good Start. It may be used in the therapy with children with motricity and mental disorders, as well as children with disorders in behavior. The Method of a Good Start is aimed at developing perceptual and motorial functions and at improving the actions done by particular receptors taking part in the processes of reading and writing. There are three basic types of exercises connected with that method, that can be used while working in the classroom:

a) physical exercises- they improve the movement receptor,

b) physical and listening exercises- they improve the movement and hearing receptor,

c) physical, listening and visual receptor- they shape the movement, hearing and optic receptor.

The above-mentioned exercises are one after another. The lesson unit during which the Method of a Good Start is used, should be divided into the following parts:
3.2. The method of Developing Exercise (W. Sherborne).

The characteristic feature of this method is supporting the child’s development by the emotional and physical activities. The method by W. Sherborne is frequently treated as a form of non-verbal interpersonal training. Children usually work in groups and the classes last for about 30 minutes. It is frequent that the children’s parents are their partners while doing exercises. Children, though, are not forced to do a particular activity. There are four types of exercise, as far as this method is concerned:

a) introductory activities. Their aim is to get familiar with the children’s own bodies,

b) exercises that help to get self-confidence,

c) activities that make the contact and cooperation with the partners easier:

✓ the protective relation which can be realized through: embracing, stroking, soaring, rolling around, pulling both legs and arms, so called luggage- the child clutching the partner,

✓ the “against” relation which can be realized through: squashing (the child tries to get out from under the partner), “prison” (the child tries to free himself/herself from the partner’s embrace), elbowing the child’s way, using feet, back, wrestling, the attempt to knock over the partner,

✓ the “together” relation which can be realized through: holding each other by the hand and standing up and sitting down, jumping together, reflection in a mirror- showing, imitating, repeating the partner’s movements, gestures and facial expressions,

d) creative exercises.

The method by W. Sherborne is recommended to children that have disorders in the body scheme (Naprawa et al., 2007).

3.3. The method of Edu-K (P. Dennison).

This method is a great chance for the dyslexic, hyperactive and mentally disabled children. The method includes so called brain gymnastics which is a program connected with the development of movement. It is aimed at easy teaching and stimulating children’s development. The nervous system is stimulated and the children are freed from any stress. The advantages that come from the brain gymnastics are, among others: improving verbal skills and creative thinking, improving hearing and

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29 During English classes it is typical to greet the children with saying Hello, students! They reply with Hello, teacher! The students are so used to this ceremonial that it is almost impossible to start any further activity until after the greetings are uttered.
sight, improving powers of concentration, physical and visual coordination, hearing and physical coordination, developing memorizing skills, improving work of both hemispheres, improving the long-term and short-term memory, developing abstract thinking, deepening breathing, supporting positive attitude. Drinking water is one of the most crucial elements because it produces energy (Dzionek et al., 2007).

The school also offers relaxing classes in the Classroom of Experiencing the World (polisensoric classroom). It is a place where handicapped children can rest, relax and use all of the senses. Scent, sounds, colours and light give the children different stimuli and relief. They also diminish negative emotions and reactions through relaxation. Children’s senses are stimulated by music, scent and luminous effects. Favourable effects are also achieved through the usage of different texts and stories.

Apart from the above-mentioned classes, children in our school willingly take part in English lessons, which are frequently conducted in a well-equipped language laboratory or in a classroom equipped with an interactive board. These are great places, where children learn a foreign language and at the same time, they improve their sight, hearing and touch.

In the school there are also classes connected with socio-therapy. Such kind of classes becomes more and more popular in various types of educational institutions. It is a form of help for children with emotional and social disorders. The classes are organized in groups, children take part in different types of games and do some specially chosen exercises. The aim of the classes is to get the children familiar with various aspects of life that can be useful for them as members of the society. These include: learning how to recognize emotions, getting to know how the mechanisms of addictions work, etc. The following methods are used during the classes: brainstorming, psychodrama, mime show, music and song, psychological and physical exercises, drawing.

4. EFFECTS OF EDUCATING CHILDREN WITH SPECIAL EDUCATIONAL NEEDS

The survey that has been carried out among the children and their parents, shows that our school comes up to all the expectations referring to handicapped children being included in the primary schools. All the teachers try to take care of the integration among the students of our school. The staff is very-well qualified as far as the children with special educational needs are concerned. The teachers permanently educate themselves, especially in the field of special pedagogy.

Handicapped children have had the possibility to learn together with healthy children just for a few years. The integration classes give such an opportunity. Every group of students is taught by two teachers: the lead teacher (usually a specialist in particular area of knowledge) and the educator who is a specialist in oligophrenia. The students are also cared about by the other specialists, such as: speech therapist, rehabilitation specialist, psychologist and socio-therapist. Mentally handicapped children improve, first of all, their reading, writing, counting and expressing skills. They acquire the knowledge of nature and culture, as well as they get the skills useful in functioning in the society. The mixed classes are small (from 15 to 20 pupils, including maximum 5 children with the certificate of special educational needs). The major aim of educating and bringing up the pupils is improving physical and mental functions, correction of disorders, as well as developing student’s talents. That is why, the major feature of successful didactic work is the diversity of methods which are adjusted to the needs and abilities of children with special educational needs. There is no doubt that there are several advantages of educating children with special educational needs together with healthy ones. These are:
a) satisfying individual children’s needs,
b) giving every child the feeling of safety and acceptance,
c) shaping the positive features of character,
d) shaping the handicapped children’s independence,
e) preparing handicapped children to functioning in society,
f) care of two teachers,
g) small groups of children,
h) the increase of tolerance due to the contact between handicapped and healthy children (Tomkiewicz- Betkowska & Krzton, 2011).

In our school a great level of tolerance towards the handicapped children can be observed. They take part in the life of the class and the whole school. They participate in different kinds of competitions and they are offered great help by the healthy pupils. What is crucial here, is the fact that all the students have equal opportunities to participate in social life. Both healthy and handicapped children learn how to be tolerant, how to accept otherness, how to be open to other children’s needs. They also learn responsibility, friendliness and understanding. Healthy children are a natural stimulus for handicapped children’s actions, they are the models to be imitated. Students with special educational needs try to be equal with healthy ones in every sphere of life, they do not want to be worse. They have motivation to work and learn, they believe in their own skills, it is easier for them to fight shyness. Due to that they become self-confident and develop themselves.

Educating handicapped children in mixed classes is a great progress comparing to the segregation which used to be popular in education decades ago. It is a chance for children with special educational needs to learn close to their place of living and to participate in social life (Rozanska, 2011).

What is more, using technically advanced tools in the classroom, such as: interactive board, language laboratory, multimedia, helps to prepare handicapped children to function better, it makes their communication with the world easier and the school - a place of modern education (Bednarek, 2006).

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STUDENTS' PARTICIPATION IN FORMATION OF QUALITY LEVEL OF EDUCATION
AT FACULTY OF ENGINEERING MANAGEMENT
AT POZNAN UNIVERSITY OF TECHNOLOGY
Hanna Gołaś, Anna Mazur, Hanna Włodarkiewicz-Klimek, Joanna Kaczmarek, Ewa Profaska,
Faculty of Management Engineering Poznan University of Technology
ul. Strzelecka 11, 60-965 Poznań, Poland

Abstract

Students participation in formation and improvement of internal system of education quality providing in Poland is one of requirements included in the law on higher education. The authors present how community of students takes part in shaping the level of education quality at Faculty of Management Engineering at Poznan University of Technology. In the paper, there are some practical solutions applied to cooperation between Faculty authorities, employees and students and striving for continuous improvement of education quality level presented.

Key words: quality of education, quality shaping, student, university/ higher school, student’s role

1. INTRODUCTION

Bringing up issues of the forming of the level of the quality of education, explicit defining this issue is necessary. It is possible to define the quality in the term of quality in different ways, considering the way possibly closest to pondered problems.

Modern definitions of encyclopedic capture the concept of quality primarily in terms of philosophical and social issues. PWN Encyclopedia defines quality in terms of philosophy and describes it as "essential features of the object, distinguishing it from others and providing for its specificity in a given respect" (PWN, 1993).

In the broader literature many different definitions and concepts of quality are presented. To a large extent, the multiplicity of definitions arise from the aspect in which the concept of quality is concerned, we can distinguish the quality (Olejnik and Wieczorek, 1982):

- in terms of philosophy, as the separation of objects and phenomena of items that can be regarded as qualitatively homogeneous,
- in terms of law, as compliance with quality standards contained in relevant legislation,
- in sociological terms, as users respond to the specific characteristics of products,
- the humanistic aspect, as the development of living and working conditions conducive to growth in the level of culture and morality of the human environment,
- the technical aspect, as to understand the qualitative properties of preference for certain objects broadcast, in order to demonstrate the usefulness of the social optimum and satisfying consumer expectations,
in the economic aspect, as the inclusion of social value, assigned to products of quality properties.

Quality is one of those concepts that are not easily defined. One of the reasons for this is that the quality is not a concept unique, and often the meaning depends on the context in which it is used (Mazur and Golas, 2011). Denis Lock recognizes quality as "the degree to which a product or service to meet customer requirements" (Lock D, 2002). According to Juran quality is "fitness for use or application" (Prussak, 2006) and should be considered as:

- degree of satisfaction of customer needs,
- the degree of consumer satisfaction calls,
- the degree of compliance with the standards and requirements,
- the degree to which the purchaser acquires the product, take precedence over other
- trait or syndrome, which can be differentiated.

Definition of W.E. Deming recognizes the concept of quality as "the expected reliability achieved at homogenity and at low cost and according to market requirements" (Mazur and Golas, 2010) or the degree of market needs at minimal cost.

A suitable example of presenting the many aspects of perception of quality, by given Faculty of Engineering Management entities (universities, government departments, staff, students, etc.) Kano model is shown in Figure 1, according to which customers, or in the case of university students perceive the quality of services due to three levels of requirements.

Fig. 1. Kano Model (Prussak, 2006)
Various approaches to the formulation of the concept of quality has made the International Standard Organization also decided to define this term as "the degree to which a set of inherent characteristics fulfills requirements" (ISO 9000:2006).

Understanding the concept of quality as a category in itself, leads to the conclusion that the quality of education should be understood as the degree to which set of characteristics in terms of education, is able to satisfy the needs of stakeholders. Quality assurance in higher education are all planned and systematic actions directly related to maintaining and improving the quality of education and research necessary to establish the appropriate degree of confidence as to the educational service that meets agreed quality requirements 'clients' internal and external (Skrzypek, 2001).

The main task of shaping the quality of education at institutions of higher education is to provide stakeholders with optimal conditions for the realization of their objectives (related to education) so as to achieve satisfaction and satisfaction with the level of service performance. Stakeholders of university are the candidates, students, faculty and administrative staff, employers, organizations and scientific associations and employers, many other graduate students. Quality of education and its development involves many steps from shaping the quality of learning programs offered by the Faculty of Management directions, organization of classes, the quality of teaching and evaluation of performance, ensuring access to teaching aids, ending with the environmental quality of education, care for students and their mutual relations. Given all these issues, we can understand how a wide area of operation is this quality of education. This area can be divided into three smaller sections, to which the relevant legal regulations concerning the quality of education:

- external quality control schemes
- internal control systems and quality assurance,
- creating / building a culture of quality.

Summing up the above analysis it can be concluded that the quality of education is a set of certain rules related to the improvement of teaching.

2. LEGAL REQUIREMENTS CONCERNING QUALITY OF EDUCATION AT UNIVERSITY

Formation of the broader quality of Polish universities, subject to the necessity of adjusting the education system to control the social, legal and organizational issues, which have adopted the European Union countries. Creating internal quality assurance systems is determined by factors affecting them, they can be characterized in two areas. First, external conditions in the area of international and national conditions created in university environment, in the second inter-university, pro-quality of organizational behavior. Different groups of factors are as follows:

A. External factors:

1. Bolognese declaration signed in 1999 by European countries. It initiated the so-called Bolognese Process focusing on substantial changes and moving the educational systems of individual European countries close, in order to create the European Higher Education Area. As part of the Bolognese Process a cooperation of European countries is one of key activities in ensuring the quality of education (http://www.ehea.info).
2. Results of the work of the conference of ministers of the higher education of countries participating in the Bolognese Process, in particular the conference in Berlin (2003), where creating the country of the system of ensuring the quality of education in everyone was declared, an accreditation system or similar procedures is functioning, as well as a participation of foreign experts is considered and realization of other forms of the international cooperation. As part of this system the well-defined scope of competence of all involved institutions exists, with the participation of students an evaluation is being effected (internal and external) of programs of studies or the institutions, and its results are being published. The next conference significant for the quality of education was the one in Bergen (2005), where standards and clues concerning ensuring the quality of education in the European Higher Education Area were suggested.

3. Action of the ENQA network (European Network for Quality Assurance in Higher Education) to which the conference of ministers of the higher education in Berlin entrusted executive works associated with coordinating systems of the quality assurance of educating in Europe. The result of ENQA work was document and Guidelines for Quality Assurance in the European Higher Education Area approved during Conference in Bergen Standards (http://www.enqa.eu/). In this document standards and concerning guidelines were suggested: of the internal system of ensuring qualities of education at the college, the outside system of the quality assessment of programs or institutions as well as the agency of ensuring qualities of education (of "accreditation agencies") (Kraśniewski, 2009, Wawak, 2011).

4. Drifting of the Parliament of the European Union from 2008, placed in the official journal of the C 111 European Union / 01 from 06.05.2008 on establishing the European Qualifications Framework for the lifelong learning. The European Parliament determined common principles of the quality assurance which will be referred to qualifications acquired in the higher education and vocational education and training put in national qualification systems to the European Qualifications Framework.

5. Operations of the Polish Commission Accreditation, being an independent institution, acting as part of the higher education system in Poland for improving the quality of education. Assisting Polish public and non-public colleges in building educational standards up to the standards of the best models being applicable in a European and global academic space is a basic aim of the Committee (www.pka.edu.pl).

6. Regulations including the Act the Law on the higher education and regulations of Science Department and the higher education directly and indirectly influencing the quality assurance at higher education institutions.

B: Internal factors:

1. The mission accepted by colleges and the development strategy and the internal quality policy built up to provide assurance of pro-quality domestic and EU readings.

2. Holistic understanding the process of the quality (from the level of providing the quality assurance to the level for the quality of education in all processes carried out at the college).

3. Level of the centralization/decentralization of the decisions, the functions and quality cells at the college, along with hierarchical relations and the formal structure of units.
4. The determination and the consequence of the staff managing the college and individual basic units of the college in implementing, the realization and the evaluation of processes of the quality assurance.

5. Attitude of the academic staff and students towards the completion of the process of the quality assurance (particularly in the area of the quality of education) and of consequences resulting from actions taken.

6. IT infrastructure held by colleges, supporting processes of the quality assurance.

7. Spotting the quality, as the factor of the competitiveness on the educational market, both of national, as well as foreign colleges.

8. Internal documents so as: articles of association, regulations, electoral law, regulations of the Rector etc. as essential for stakeholders of the College, most closely applying to defined principles and rules at the institution.

3. STUDENTS PARTICIPATION IN EDUCATION QUALITY FORMATION AT THE FACULTY OF MANAGEMENT ENGINEERING AT POZNAN UNIVERSITY OF TECHNOLOGY

Correct work of education quality providing system depends on strategy developed by the University. One of the elements necessary for shaping and improving education quality is involvement of the University stakeholders, including students, in the whole process. More and more often, universities notice that the element most important in the process of providing and improving quality of education is a student. Quality of education is being improved for students mainly and well educated graduates of each university is its best flagship. The place of students among stakeholders of the Faculty of Management Engineering at Poznan University of Technology is presented in the figure below (fig. 2).

![Fig. 2. External and internal stakeholders influencing education quality of the Faculty (own work)](image-url)
The law on higher education defines obligation of including students, through their representatives, to some of the tasks realized. For example, in the art. 68 the following requirement is presented “one of the specific competences of a council of a basic organizational unit is: 1) (...)2) definition after consulting with students self-government and in consistency with requirements defined by senate of public university or collegium of non-public university plans of courses and education programs”. What is more in the art. 104.2. it is written that “scholarships defined in part 1 are given to students and PhD students after consulting with executive body of students self-government defined in the statute of students self-government and with executive body of PhD students self-government (Book of laws (DZ.U) from 2005. Nr 164, issue 1365 with later changes). There are numerous similar records in the bill and thorough analysis leads to the conclusion that students should participate actively in shaping education quality at their universities. At the Faculty of Management Engineering at Poznan University of Technology students take part in formation of internal system of quality control and education quality providing. Because of the above mentioned, students representatives take part in development of education programs and courses plans. Students focus mostly at developing and correcting courses plans. There is a student in each faculty commission for education at each course and he/she influences decisions concerning courses programs taken and changes introduced into them. As commission members they can introduce comments, f.ex. connected with mistakes which can negatively influence education level. Students reps are a link between all the students of a course and the rest of commission members, deciding on importance of each subject for education cycle. Students also take part in sessions of Poznan University of Technology Senate, basic councils and collegiate units of university. Thanks to membership in the above mentioned bodies and commissions students are able to take part in the Faculty Social Commission. As they are the majority of the commission their vote is decisive in decisions concerning other students. The issues considered include mostly benefits the students can apply for when their financial situation is poor. The principles for applications assessment are defined in the Statute for material aid granting. This is how students help other students, improving image of the Faculty and leading to customer (student) requirements meeting which is priority from education quality shaping at FME point of view. Also according to the Rules of the Faculty Committee on Quality of Education, the team, in addition to quality specialists of one representative of Student Government. Faculty Committee for Quality Assurance has taken steps to maintain and improve the internal quality assurance system of education at the Quality Engineering Department University of Technology. The task is the student's active participation in committees and the indication of the impact of students on the processes of the Department. The student as a full member of the committee shall attend all its meetings and deliberations. Thus contributing largely to improve the quality of education at the Faculty. This year, the work of the Departmental Committee on Standards in substantial part focused on the preparation for the certification of quality management system implemented at the Department of Management Engineering. Currently, the Faculty has been certified ISO 9001:2008 in education full-time students and part of the first and second degree and doctoral studies and postgraduate studies. Students also participate in the evaluation of teachers and assessment of the classes. Questionnaire design is one of two forms of evaluation of educational quality.

It is conducted by the University in close collaboration with the student government. The survey shall be completed via the Internet at the end of each semester. When completing the student survey is an easier task, because once they are proposed, leading to corresponding data items. The form is the same for all courses of study at the university. Surveys conducted on both the object and the teacher. The questions in the survey raise issues such as preparation leading to the classes, the impact of teaching on student intellectual development, form of proof of knowledge or understanding of the material is
driven. Once developed, the results of surveys shall be reported to the Dean, who draws the appropriate conclusions from them.

Because of involvement of students self-government and regular motivating to questionnaires filled out questionnaires number increases continuously. Additionally, the Department of Management Engineering, each academic teacher has the right to conduct a survey among its students, to the views of issues related to education within a given subject. These surveys are not mandatory, and each student who wishes to participate in the study contributes to the improvement of education quality. Students and their representatives have the opportunity to choose and influence the proposals of elective courses, and elective subjects.

Faculty of Management University of Technology allows students to choose specific items. Examples of this are elective courses or freely chosen by the students. With a list of courses, students shall select the most interesting of subjects, thus ensuring for future education. Faculty of Management regularly takes care of the increasing knowledge in science subjects such as mathematics and physics. Students who were in the first year after writing a test checking their existing knowledge are recruited from the elective courses listed above in science. Participate in such activities, students who dropped out in tests to check the least. Therefore, the Faculty of Management strives to make its graduates have a high level of education. Poznan University of Technology students are also involved in making many decisions by the Department of Engineering Management, has 20% representation in the Council and the Faculty Senate, University of Technology. They also have the possibility of membership in the electoral college, the same shall not be passive when such important measures as the election of university authorities, the Department of implementing its strategies and policies. The main area of interest is the analysis of the students of the Faculty of Management Strategy in terms of its bias to increase the quality of training packages, training, development of the university, interdisciplinary, and most importantly the relationship with students. In the area of external quality control systems the role of student is also noticeable and mainly consists of the activities of the Polish Commission for Accreditation as an expert Student. Activities of the Polish Accreditation Commission regulates the Law on Higher Education. The team visiting an institution comprised of 2 to 8 people depending on the type of visit or the size of the University. Also, student (other than the visited institution) is one of the members of the team. Under the Statute of Polish Accreditation Commission is the expert Student Parliament of Polish Republic. The visiting team of the unit also includes other experts and members of the Polish Accreditation Commission. Student Activities in the band consists of analysis of student affairs at the visited unit. During the accreditation of expert Student checks the university to adapt to the requirements of the Act and evaluates its work from the perspective of the student. Through meetings with students and interviews with staff verifies the information received, creating a partial report. Then a common version of the final report of the visiting team is developed, which includes comments and compliments are indicated by each of its members. By his/her remarks in the committee a student who raises the quality of education at the location visited the Faculty / University. Faculty of Management University has among its students PSRP Expert at the National Accreditation Commission, which evaluates a different look to the department and helps in the work affect the improvement of the quality of education. In terms of creating / building a culture of quality, students take their own initiatives to improve the quality of student learning: training, conferences, creation of research groups. The Faculty of Engineering, Management currently operates eight research groups. Each of them is aimed at self-education. Students therefore ensure that their level of knowledge is constantly rising. Organized by students for students and conferences always have a great interest and involve any number of positive experiences. At the Faculty of Management Engineering at Poznan University of Technology students play a very important role both as consultants in making decisions.
affecting the quality of education, as well as the design of many solutions influencing the quality of education. Figure 3 presents a summary of the discussed areas of the student at the Department of Management Engineering of the quality of education.

Fig. 3. Students of FME at PUT participation in processes striving for quality (own work)

Students can influence quality of education thanks to both membership in students self-government bodies and to active participation in faculty life and initiatives taken (surveying, scientific circles, research projects etc). however, the stress should be put on the most important role of students which is their active participation in shaping and improving education quality providing system. Holistic approach to the problem provides opportunity for its correct analysis, solution and improvement. Without students help verification and solution is not possible as it is necessary to have a look at a problem defined from the main education service receiver, a student, perspective. It is important to take a feedback between organizational units into consideration.

4. ORGANIZATION OF EDUCATION QUALITY PROVIDING SYSTEM AT FACULTY OF MANAGEMENT ENGINEERING AT POZNAN UNIVERSITY OF TECHNOLOGY

The main tool used by the Faculty of Management Engineering to take care for education quality is the Faculty System of Providing Education Quality. Its main goal is adjusting proper mechanisms of designing, monitoring and improvement of education process to courses provided. The Faculty System of Providing Education Quality consists of:

1. Assessment of education process at courses and specializations provided.
2. Assessment of lectures and seminars quality and conditions they are conducted in.
3. Assessment of quality and availability of information concerning education at courses and specializations provided.
4. Assessment of consistency of courses content with requirements and standards defined by KRK for the courses and their fitness to requirements of local labor markets
5. Implementation of tools to be used for realization of the activities defined above.

At the Faculty of Management Engineering at Poznan University of Technology, the model applied to development, functioning and improvement of quality providing system is continuous improvement cycle, also called Plan-Do-Check-Act cycle or Deming cycle (Golas and Mazur 2011). In the figure below (fig. 4.), the model of internal system providing quality with students participation is introduced.

![Fig. 4. Faculty system of education quality providing at Faculty of Management Engineering at Poznan University of Technology – activities with students participation (own work)](image)

The System of Education Quality Providing at the Faculty of Management Engineering at Poznan University of Technology is constituted according to the resolution passed by Senate of Poznan University of Technology and referred to introduction of the University System of Education Quality Providing. The basic goals and assumptions of the system are presented in the document entitled “Faculty system of education quality providing” and approved by the Council of Faculty of Management Engineering. The model presented above includes the following activities realized during
exploitation of the system:

- assessment/analysis of current state
- definition of goals for the ranges given
- work scheduling
- definition of unit responsible for shaping and improvement of education quality providing system,
- realization of assumptions and jobs ordered
- evaluation of results
- corrective and preventive actions and continuous improvement.

The basic unit responsible for internal system of education quality providing is the Faculty team responsible for Education Quality, responsible for:

- development of clear procedures concerning education quality providing at the Faculty,
- increased importance of didactic work,
- continuous improvement of quality and condition of work of courses conducted at the Faculty,
- development of mechanisms for management, monitoring and improvement of Education Quality Providing System at the Faculty,
- improvement of communication systems for students and employees and potential candidates for students and all the parties interested in studying at the Faculty,
- improvement of process of informing potential candidates for students, their future employers and local authorities about quality and level of education.

Faculty Commission for Education Quality Providing consists of the Dean of Faculty of Management Engineering, representatives of academic teachers (their number should be defined by the Faculty Council) and representatives of students. List of names of Commission members, its president and secretary is suggested by the Faculty Dean and approved by the Council of Faculty of Management Engineering. Every member of the Faculty Commission for Education Quality Providing is entitled to take part in trainings and seminars concerning quality of education as long as financing with the Faculty means is possible. The president is leading the works of the Faculty Commission for Education Quality Providing. The Commission meets at least once during each semester and the date is appointed by the president, the discussion is documented by the secretary. At the beginning of each academic year, the Faculty Commission for Education Quality Providing develops a plan of its work. Once a year (till 31 March) the Commission presents a report on its work to the Dean of Faculty of Management Engineering. The Dean is obliged to present the report to the Faculty Council no later than the at the closest Council meeting. The protocol of the Council meeting concerning education quality is passed to the Vice-chancellor for Education till the end of May each academic year (Statute nr 93 of Academic Senate of Poznan University of Technology dated on 30 May 2007). After the report is approved by the Council, it is kept by the Commission Secretary.

The tasks of the Faculty Commission for Education Quality Providing at the Faculty of Management Engineering also include the following:
– active participation in preparatory actions taken for quality audits and accreditations,
– initiating, organizing and co-organizing trainings, meetings and seminars concerning issues connected with education quality,
– cooperation in the Faculty promoting initiatives including periodical meetings with youth and secondary school teachers, open lectures, open days, science festivals, seminars and conferences, seminars etc.,
– analysis and assessment of all activities influencing education quality at the Faculty.

Students play an important role at every stage of the work, and influence the Faculty System of Education Quality Providing at Faculty of Management Engineering with all the other stakeholders.

ACKNOWLEDGEMENTS

Development of a new concept of quality for Polish universities depends on the necessity of adjusting education system to social regulations, legal system and organizational requirements accepted by member countries of the European Union. The Law on higher education, novelized in 2011, along with executive documents connected, creates new perspectives for creating internal systems of quality providing systems in Polish universities. In the paper, all the legal regulations supporting taking actions striving for increasing quality of education are introduced. The approach to internal system providing quality formation introduced in the paper and implemented at Faculty of Management Engineering integrates both formal requirements defined in EU and Polish law regulations and attitude of students and their commitment in activities supporting continuous improvement of education quality at Faculty of Management Engineering at Poznan University of Technology.

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DSS - (DECISION SUPPORT SYSTEMS) – STRUCTURES
AND OPPORTUNITIES OFFERED BY AGRICULTURE

Biljana Matevska, Igor I. Nedelkovski

Abstract

Knowledge engineering – is a discipline devoted to the integration of human knowledge into computer systems. Expert systems are software systems that mimic deductive or inductive reasoning of a human expert in showing a degree of independence. This kind of systems is not present in the agricultural sector in Republic of Macedonia.


1. INTRODUCTION

Class of computer programs whose purpose is to serve as consultants during the process of decision making. These programs use a collection of facts, rules and other knowledge for a limited field of action for the adoption of effective conclusions for goal.

Essential difference between expert systems and conventional computer program that targets expert systems may not have an algorithmic solution, so you are forced make conclusions based on incomplete and assumed, but not proven information. The name expert system comes from that require human expert in making the final decision.

An important fact about expert systems is that not only use knowledge of the area defined as available published literature on the topic, or in the form of theorems, but used personal experiences of experts are not available in the literature.

Simply, put an expert system contains knowledge obtained from an expert in a particular narrow area. This knowledge is used to facilitate the use of expert systems in which an individual uses to solve a problem. The term narrow area is used because there is difficulty in integrating enough knowledge in a system that would decide a multitude of problems.

Expert systems are used in different areas, and still represent the most popular developmental approach to artificial intelligence. Any structure of any expert system should contain at least three components of processed system of artificial intelligence including: Knowledge base - specific facts in the field of processing and closely related problems. The expert system based on rules, the knowledge base is composed of a set of derived rules. Many of them contain thousands of rules, usually obtained through examination of experts from the area. The usual form of the rules is: cause - effect and if – then.

General Database - respectively general knowledge, historical data, ratios of engineering statistics. For example, the general database can contain a list of readymade components or table of the properties of a substance.

User Interface and control structure – that is mechanism for carrying out the conclusions which acts according to the specific domain knowledge, a general database and data specific to the problem.
entered by the user. The user interface varies depending on the format of the database, including the architecture of representation of knowledge.

2. BENEFIT FROM EXPERT SYSTEMS

The expert system provides a way for users to ask the right focused questions. Do not ask unnecessary questions, but require more detail when the input indicates that it is appropriate. All data is automatically returned to the Access database DSS server. If the user is connected to the Internet, the same applet and rules can be run as stand-alone with the data written to disk file which can be sent to the DSS. Expert systems that can perform many functions in an organization are in favor of the company in numerous ways. The overall pictures of expert systems show steady growth in quantity and degree of complexity of "intelligent" systems in business. If they are carefully planned, designed and implemented, can provide significant return on investment. Of course, the company must justify the inevitable investment with an explanation for the needs of consumers and trade. Expert systems receive criticism from people who doubt their functionality. Requirements for some systems pretension and sometimes misunderstood and interpreted in the popular media. However, this trend is clear and expert systems are widely used if they receive support from top management in the company.

Web - Page is the primary channel to interface with new and existing customers for many companies. Web - is designed as a way of sharing data. The need and desire to put more data on a web-site for customer support, can effectively be done only by expert systems. The delivery of expert data through the Internet is probably the biggest motivation for fast-growing use of expert systems. Certain problems are candidates for expert systems, while others are not appropriate for this solution. The key problem is the selection.

DSS technology should consist of three groups of opportunities in the areas of dialogue, data and modeling, which Sprague and Watson call DDM paradigm. They also noted that a good DSS should be a balance between the three possibilities. The first letter "D" means that the DSS should be easily used to enable decision makers, who are not technically educated, to communicate fully with him. The second "D" indicates that DSS should have access to a wide range of data sources, databases, formats and types of data. "M" indicates that DSS should provide modeling. However, in practice, DSS may be, for example, better in one area only, and worse in the other two, which depends on the requirements of decision makers.

DSS can be an independent tool, which is used by one decision maker at one location, or it may be distributed in one or several organizations. It can be integrated with other DSS or with applications of information systems, and can be distributed both internally and externally, using networking and WEB technologies.

3. AIS (AGRICULTURAL INFORMATION SYSTEM) IN THE REPUBLIC OF MACEDONIA

AIS (Agricultural Information System) - is integrated set of system tools based on adequate information technology infrastructure in NEA, MAFWE and other relevant institutions - manufacturers or users of such data. AIS should allow collection of data on agriculture and rural development, their verification through analysis and dissemination of information to end-users.
and 3) Agricultural Market Information System (AMIS), supplemented with administrative systems for recording and registration: agricultural holdings in 4) a single register of agricultural holdings (farm register) and agricultural land 5) System identification of land parcels (LPIS), which on the other hand, are integral elements in the function of the Integrated Administration and Control System (IACS) for implementing and monitoring policies for direct payments and rural development.
Full functioning of the systems will mean setting up effective policies based on needs and problems in the sector, their successful implementation with maximum reduction irregularities and abuses, improved control and assessment of the effects of policies. Integrating the various databases and registries to facilitate the application procedures for farmers to support policies and provide useful data for the business sector. Establishing the elements of AIS, especially parts of the Integrated Administration and Control System (IACS) is one of the most significant short-term priority commitments in the process of integration of the Macedonian agriculture in the EU, as defined in the National program for adaptation to the Acquits (NPAA) in the horizontal section. Specifically, although the scope of AIS may be different from country to country, however EU and the countries that pretends to be its members are recognized following the so-called main pillars in the system: 1) Agricultural Statistics of Economic Accounts for Agriculture (EAA) 2) Farm Accountancy Data Network (FADN).

Fig. 3 LPIS - system with a practical example

4. CROPCHOICE

CropChoice$ is a crop planning software tool from Alberta, Canada Agriculture and Rural Development (ARD) that helps grain, oilseed, pulse and special crop producers make better crop planning decisions. It helps forecast revenues and margins for the crop enterprises, and calculates the probabilities of achieving those results.
CropChoice$ helps make better management decisions about cropping enterprises by identifying, measuring and managing risk. CropChoice$ also helps evaluate risk management strategies such as changing the crop mix, buying crop insurance and negotiating land rental arrangements.

Choose Start from the Welcome Screen and the Main Input Screen will appear. It shows two input columns with no input or default information.

Fig.1. – Main Input Screen (Demonstration File)

Fig.2. - Entering Township, Range & Meridian, Soil Zone, Crop Yields and Prices, and Crop Insurance Information
The CropChoice$ is design is field based not crop based. Therefore, enter data on a field-by-field basis, which is likely the same as records are reported to AFSC.

Clicking on the Crops input cell produces a drop-down box with a list of crops available the indicated township, range and meridian. Select the crop to be grown in each field. Depending on the crops selected, bushels, pounds or tones will appear. Set units cannot be changed. When entering yields, prices and other information, pay close attention to the unit assigned to each crop. Serious errors occur if inputs are based on bushels when they are supposed to be in pounds (i.e. chickpeas, beans and other crops are measured in pounds, not bushels).

CropChoice$ has a unique feature to deal with the issue of growing high-yielding/lower value feed barley or low-yielding/higher value malt barley. A complicating factor is that malting companies do not always accept barley grown for malting purposes. CropChoice$ allows for the chance that barley grown for malt may not be accepted.

When a crop insurance option is chosen, CropChoice$ calculates the premium automatically, based on location, crop, Spring Price Endorsement (SPE) option and coverage level. The choice applies to all fields growing the same type of crop. For example, if two fields of barley are chosen, then crop insurance applies to both fields. This is consistent with crop insurance policy.

This is a critical point in the analysis. Take great care when entering data. For each crop, enter estimate of the worst possible, best possible and most likely yields and prices. These three values
represent individual experience and knowledge about the ability of the farm to produce a crop, and the best information available about prices.

The spring price endorsement (SPE) is only an option if crop insurance is selected. The coverage level defaults to 70%, but 50%, 60% or 80% levels are also available. If an option is chosen for which no crop insurance contract is available, then a warning message “CropChoice$ does not support this combination of crop insurance options” pops up, and the premium shows as zero.

CropChoice$ automatically enters default costing information based on soil zone, crop type and cultivation practice. Default costs are based on Alberta Agriculture and Rural Development’s Cropping Alternatives budgets and data collected by the AgriProfit$ Business Analysis and Research Program. Cropping decisions for farm operations should not be based solely on the default information provided. It is critical to review the numbers in CropChoice$ carefully and update them your cropping and financial records.

When you add additional fields of the same crop, CropChoice$ will copy the cost profile from the first field you entered. Customized crop insurance coverage levels and premiums are also copied. Spend time customizing costs for the first field of each crop, so that additional fields will reflect your changes.

If the variable cost column is blank after a crop and a cultivation practice are selected, then no default information is available.

Both paid and un-paid labors are included in the variable costs.

This screen shows important information about the scenarios created. Results are displayed in two different graphs and in the table at the top of the page. Create up to eight new scenarios and run simulations for each. Update or replace existing scenarios simply by making the required changes and re-running the simulation. Two to four scenarios work best; with additional scenarios the graphs may become confusing.

Enter the details of land rental arrangements in the appropriate section near the bottom of the Main Input screen, either cash rent or crop share.

Crop share rent is calculated as a percentage of gross revenue. In a share crop situation, if the landlord pays a portion of the seed, fertilizer and chemical, then enter that portion as a percentage. If the share crop arrangement is more complicated, then estimate the landlord’s share of costs in dollars and enter it in the row titled “or $/acre”. The landlord’s share of costs (Seed/Fert/Chem % or $/acre) is calculated into the net rental paid under cash fixed costs.

In all share crop situations, assume that the landlord contributes a portion of crop insurance premiums and receives the same portion of any payouts. CropChoice$ assumes the landlord cannot lose money; therefore the landlord's share of the crop is never lower than zero. The Tenant’s Other Exp. $/acre can be used for additional fixed costs over and above the crop share, i.e. fencing, taxes, water rates, etc. are paid by the tenant.
**Fig. 4.** - Variable Costs, Land Rental, Cash Fixed Costs

- **Cash Fixed Costs** - CropChoice\$ supplies default figures for cash fixed costs, but revise these figures to reflect your own numbers. It is unlikely to have taxes on rented land, but there may be capital interest on machinery. Click the Input Data Preview button to view a complete
Saved record of all input information for each scenario. Click the Print button at the top of the screen to print a copy.

- **Saving Your Work** - Click the Save button at the top left side of the Main Input Screen to save work. A Windows screen will appear to name and save the file in your usual way. When exiting, CropChoice$ asks, “Do you want to save the input data?”. If Yes, then the same Windows screen will appear. If No, then CropChoice$ will close and the data will not be saved. Clicking Cancel will return to the program. This process can create, name and save any number of CropChoice$ files. To open a previously saved file, click the Open button at the top of the Main Input Screen and select the file.

- **Running Simulations** - Once input information is entered for the first scenario, CropChoice$ must run a simulation before the analysis is complete. Click the Run Simulation button on the left side of the screen. After a few seconds, the Scenario Analysis screen will appear.

- **Additional Scenarios** - CropChoice$ performs scenario analysis. Up to eight different sets of inputs can be created and saved, simulations ran and comparisons made. The ability to compare multiple scenarios against a base scenario is what makes CropChoice$ analyses extremely valuable.

To create additional scenarios, go to the Main Input screen, click on the Scenario # drop-down box and choose the next number. To copy the inputs from a previous scenario just follow the instructions as they appear.

- Create new scenarios by making changes such as varying the crop mix, adding acres, adjusting crop insurance choices or switching to alternate land rental options. Name the scenario appropriately.

- Run a simulation for the new scenario by clicking on the Run Simulation button at the top left of the Main Input Screen. The Scenario Analysis screen will appears after each simulation.

The demonstration file has four scenarios already entered:

1) Base Scenario  
2) Base plus crop insurance  
3) Base plus crop insurance & SPE  
4) Base plus crop insurance, SPE and share rent

The table at the top of the Scenario Analysis screen presents the same information, but in a different way. Expected contribution margin, gross margin, and their standard deviations are presented for each scenario, making comparisons relatively easy. The ability to set individual targets for gross margin (GM) is an important feature of this table. Type in any value for gross margin and the probabilities of failing to reach that level are automatically calculated for all scenarios.

### 4.1. Probability of Gross Margin Levels Graph

The graph on the lower right of the Scenario Analysis screen shows the chances of reaching any specific gross margin level. This graph compares scenarios and the effects of the various risk management strategies.
Fig. 5. Creating a new scenario

Fig. 6. Scenario Analysis Screen
4.2. Information Table

The table at the top of the Scenario Analysis screen (see Figure 6) presents the same information, but in a different way. Expected contribution margin, gross margin, and their standard deviations are presented for each scenario, making comparisons relatively easy. The ability to set individual targets for gross margin (GM) is an important feature of this table (see Figure 7, below). Type in any value for gross margin and the probabilities of failing to reach that level are automatically calculated for all scenarios.

CropChoice$ only deals with the cropping enterprise, not the whole farm, this is key to setting targets. Targets should reflect an appropriate portion of total gross margin requirements. If forecasting the percent chance of incurring a significant loss, then consider entering a negative gross margin target. Figure 7 uses -20,000, and -$10,000.

![Image of Information Table](image-url)

Fig. 7. - Setting User-Defined Targets for Gross Margin

View the Scenario Analysis screen report by clicking on the Print Preview icon on the left of the screen. Print a copy by clicking on the Print button.

4.3. The Summary Report

To view or print a complete summary of all scenarios in a report format then click on the Summary Report button on the Scenario Analysis screen. This report is a compilation of individual Scenario Analysis reports without graphs.

4.4. Contribution Margin and Gross Margin

Contribution margin and gross margin are closely related concepts. Contribution margin is defined as total revenue minus total variable costs. It is the best single indicator of profitability at the individual field level. In terms of economics, it is the first choice-point in selecting crops for the farm plan.

Gross margin is defined as total cash revenues minus total cash expenses. Since CropChoice$ assumes that all revenues are cash, the only differences between contribution margin and gross margin are non-cash variable costs and cash fixed costs:

- Unpaid Labour is included in the contribution margin calculation because it is a variable cost. Unpaid labour is excluded from gross margin because it is not a cash cost.
- Cash Fixed Costs include land rent (cash and share crop), taxes, water rights, licenses and capital interest. Fixed costs are included in the gross margin calculation because they are a cash cost. Fixed costs are excluded from the contribution margin.

In summary, contribution margin is valuable when choosing the most profitable long-term crop mix. Gross margin is valuable indicator of the cropping enterprise’s ability to generate cash flow annually.
4.5. Mean and Standard Deviation

Mean and standard deviation are statistical terms that describe the variability of a series of values.

- The mean or simple average is the same, the total of all the values divided by the number of values. In CropChoice$, the mean is also an ‘expected’ value, i.e. Expected Contribution Margin.

- Standard deviation is a measure of how far individual values vary from the mean. In CropChoice$, standard deviation is a measure of risk. Higher standard deviation values indicate more variability or more risk.

Mean and standard deviations must be considered together. Standard deviations are not comparable unless they have the same base. Example: standard deviations of contribution margin per acre are directly comparable, but standard deviations of crop yields are not directly comparable.

The mean and standard deviation relationship becomes clearer in the risk-return tradeoff chart on the Scenario Analysis screen.

4.6. Triangular Distribution

CropChoice$ uses a three-point estimate to describe how crop yields and prices vary. In the Main Input screen, users enter worst possible, best possible and most likely values (for prices and yields) for each crop. This is all it takes to calculate a triangular distribution that describes variable inputs in statistical and mathematical terms. The mean, standard deviation and other statistical measures are calculated from this distribution. The seemingly simple inputs reflect real-world knowledge and experience growing and marketing crops, but this information has tremendous analytical value.

4.7. CropChoice$ limitations

CropChoice$ tends to under estimate the value of crop insurance. For example, the three-point yield and price estimates should be framed as, “I would be very surprised if my yield were lower than 30 bushels of barley”. CropChoice$ would then rule out barley yields below 30 bushels. However, catastrophic events (such as major hailstorms or the 2002 province-wide drought) can cause near-total crop failures. The key message is that CropChoice$ is designed to calculate the risk to the cropping enterprise within the yield and price parameters that are provided. It is unable to evaluate the probability or the impact of a catastrophic event. When evaluating risk management strategies, consider the ability of crop insurance to cover these infrequent events, even though CropChoice$ does not consider them.

Correlation coefficients for certain crops are based on estimates because historical information about the relationship of these crops to others is limited. For example, when chickpeas are selected a warning message appears, “Information about this crop is scarce, and estimates have been used. Scenarios that include large acreages may not be reliable. See User Guide for more information.” To minimize any problems, these crops should make up a small proportion of the total crop acres.

For example, canola might be a reasonable stand-in for safflower. Substitution can be useful, but be careful if using this strategy for only a small proportion of crop acres, otherwise, the analysis could be misleading. CropChoice$ does not handle other enterprises, such as livestock.

CropChoice$ does not consider balance sheet information or non-cash fixed costs such as depreciation. CropChoice$ cannot be used to make whole-farm projections because it deals with the
cropping enterprise only. However, where cropping represents a significant part of an operation’s total revenue, the CropChoice$ analysis may help make a better whole-farm assessment.

5. EXAMPLES OF APPLICATION OF CropChoice $ - SOFTWARE FOR CULTURES AND VALUES IN THE REPUBLIC OF MACEDONIA

For demonstration of expert systems in agriculture, was applied software (expert system) to forecast revenue plant cultures. With this software, councilors NEA can provide services to farmers associated with predicting revenue from their crops. The basic input data for the software will be extracted from the database FADN system. Some of the simulations performed in the Republic of Macedonia:

![Figure 1. Selected crops for simulation - Wheat, rape and alfalfa](image)

*Fig. 1. Selected crops for simulation - Wheat, rape and alfalfa*
The graph on the lower right of the Scenario Analysis screen shows the chances of reaching any specific gross margin level. This graph compares scenarios and the effects of the various risk management strategies. If one scenario were above and to the right, or below and to the left of another scenario, then there is no absolute answer. The best scenario ultimately depends on the user’s attitude toward risk.

6. CONCLUSION

One of the main tasks of today’s expert systems is to increase efficiency, productivity, and quality, and most serve as a complement of human capabilities. Need of expert systems for technical information transfer in agriculture can be identified by recognizing the problems. The advantages of the expert system are that it can offer better solutions compared to traditional methods. It is proven by expert systems in agriculture that helped a lot in increasing crop production. Most expert systems are in English. By developing an expert system in agriculture in the mother tongue of a farmer, would help to know the facts and truths to increase its production.
Fig. 3. Enterprises and the farm level, Review of the expected costs and returning them to the relevant Scenarios

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Abstract

The author presents dialogue as a tool for improving creative thought and expanding the human capacity to discover and comprehend truth. In an outline of various dialogue paradigms she refers to Socrates, Buber, Levinas and Tischner, she also describes the specifics and values of pedagogy of creativity and notes that this pedagogy needs a new subjectivity concept and new education methods and tools. In this contest she notes that dialogue is an interesting educational tool in pedagogy of creativity.

Key words: Dialogue, creative thought, dialogue paradigms, pedagogy of creativity

1. INTRODUCTION

Contemporary pedagogy recommends dialogue as a way to get to know, get closer to and, insofar as it is possible, strike up cooperation with the other dialogue participant. Dialogue is also associated with openness to understanding. In the present paper I wish to deal with dialogue as an interesting tool for boosting creative thought. Dialogue helps to improve, and at times even enables, human creativity in the cognitive sphere, it allows us to cross the borders marked out by our accepted system of understanding. This is highly interesting from the standpoint of the situation facing contemporary humanity.

We entered the 20th century with the awareness of an ongoing multi-dimensional culture crisis. The search for its sources and remedies against it began already in the latter half of the 20th century, and at the time it was remarked that the perception of the crisis as well as the proposed solutions were often steeped in modern-day schemas and metaphors which ordered our thought and activity. These schemas and metaphors are precisely what we need to change if we are to cope with the threats carried by the crisis and the opportunities it offers.

Fritjof Capra wrote that we live on the border between two eras and have reached a “turning point” (Capra). From the perspective of this “turning point” Capra notes that the nature of the crisis is well represented by the Chinese term for crisis – wej-ji – which consists of two signs: “danger” and “opportunity”(Capra, p.50). Thus understood, the term “crisis” implies the need for and possibility of attaining metanoia (Kolakowski, p. 9) and reaching beyond the limitations inherent in a world resulting from activity rooted in modern schemas of understanding and valuation. (At the 1994 opening of the 6th International Society for Universalism Symposium on The role of Philosophy, Science, Business, Mass Media and Non-Governmental Organisations in Preventing Ecological Disaster the philosopher Leszek Kolakowski pointed out that in light of the symposium’s guiding theme “an urgent issue is a mentality change, a metanoia...”). Metanoia is subjective activity. However, every metanoia also bases on trust in someone or something which convinces us that we can influence the future. Hence, metanoia takes place in three dimensions of time – the past which we
Pedagogy faces the very demanding task of preparing humans for the creative transformation of themselves and the world. It also stands before the no less difficult errand of preparing us to exist in this world, which we do not yet know. Traditional education appears unable to cope with these tasks, which makes the interest shown in the new pedagogy model that is pedagogy of creativity all the more understandable. Pedagogy of creativity strives to prepare humans for creative existence, in other words to teach them to notice problems and resolve them creatively, and to create their living space wisely.

2. THE SPECIFICS OF PEDAGOGY OF CREATIVITY

Pedagogy of creativity emerged alongside two considerably older pedagogy models. The earliest was geared to preparing humans to function in their environment and aimed to shape them according to an ideal determining the best way to be human. I write about it in The specifics of pedagogy of creativity. A comparison of three kinds of pedagogy (Najder-Stefaniak 2010). Another, slightly younger concept is pedagogy of capability (Najder-Stefaniak 2010). The capability category refers to natural differences between human individuals and shifts the emphasis from the ideal to the specific, from general to individual human features. The humanistic variant of pedagogy of capability aims to enable individual development, the instrumental variant proposes the instrumental treatment of the educational object.

Modern analytical thought favours the separate treatment of teaching and upbringing. Teaching is to provide the knowledge needed for us to be effective in mastering the tasks we are entrusted with. The instrumental and objectifying approach to the human individual sees the aim of upbringing in the adjustment of individuals to predetermined rules of life. This pedagogy model works best as a monologue and there are voices suggesting that teaching should take place in groups of similarly-skilled individuals without regard for the diversity and synergy which pedagogy of creativity strives to make use of. Synergy suggests asking how various capabilities may be integrated to enhance thinking, understanding, activity, feeling and experiencing. Dialogue is a tool enabling the synergy of the effects of activity in the cognitive sphere.

3. DIALOGUE AS A FORM OF ENCOUNTER

The specific thing about humans is that they move through space and time meeting other people directly or through the effects of their activity. Thanks to these encounters humans enrich themselves by the experiences, thoughts and discoveries of others. Such encounters in the dialogue sphere may result in synergy. We speak of synergy when the collaboration of at least two factors of a given impact and effect yields a bigger effect than the summed effect of these factors’ activity in separation.

There are various kinds of encounters depending on how we approach difference. In the “either or” model they are competitive, the dialectical paradigm produces “common sense of loss” encounters, the complementary paradigm yields encounters of a supplementary nature, the dialogue paradigm enables encounters founded on a sense of dignity – both our own and the other side’s.

Necessary for dialogue is respect for the “otherness” of those with whom we enter it and an interest in the truths they reveal. Dialogue partners assume the world is subject to a universal and rational
regularity which functions as a reference plane for the truths they reveal, and this reference plane is what they strive for in their dialogue. Dialogue requires thought directed beyond concepts and towards the object, in other words – intentional thought.

In order for dialogue to function as an instrument improving creative thought the dialogue partners must have a sense of responsibility for their own understanding of the world and accept a crucial epistemological assumption: namely that cognition is a process founded on the constant discovery of truth. Socrates understood this well and maintained that a philosopher’s task was not to “give” but “point the way towards” knowledge.

Dialogue may be realised by means of non-algorithmic thought free of concepts closed in unequivocal definitions rooted in one system of understanding. Henri Bergson wrote about flexible concepts – concepts which “are capable of following reality through all its turns and bends and assuming the movements of the inner life of things”. Dialogue needs concepts which are not stiffened by definition. It is possible and makes sense only when we apply to it concepts which possess the depth of symbolic ambiguity and the character of Bergson’s flexible concepts. An encounter between concepts closed in their approach to a given object and suggesting different ways of understanding it must produce conflict.

4. THE PARADIGMS OF DIALOGUE

The term “dialogue” has several meanings, which results in a variety of dialogue paradigms. The kind of dialogue proposed by Socrates differs from what Martin Buber writes about. Still another kind is the ethical dialogue described by Emmanuel Lévinas. In the “dialogical union” propounded by Józefa Tischner the Asker makes the Asked a participant in a certain situation and their encounter creates an area in which values meet.

There is also a type of dialogue whose aim is not the truth but consensus. When we antagonise the sides in a subject-object relation, dialogue can be at most perceived as a way to reach consensus, which does not enrich but reduces the situation. We can not make use of dialogue’s heuristic capacities when we strive after the truth according to the alternative thought schema, which requires a choice between two mutually-exclusive possibilities.

The dialogue proposed by Socrates helps us to escape the pitfalls of thoughtlessly accepted theorems and convictions and opens the path to truth. In dialogue, Socrates says, theorems cannot “stand” but must “move”; the important thing, however, is for them not to “trot around in circles” (Plato 1958 a, pp. 41, 42). Socratic dialogue does not lead to conclusions closed in what we have managed to discover and name, its aim and value is rather to open than close the door to cognition and to make people aware of their ignorance rather than placate them with knowledge. Socrates’ interlocutors could not feel comfortable after talking with him. Socratic dialogue created a state of mind described by Meno:

“Socrates, I have heard, even before I met you, that you not only still know nothing and know of nothing, but that you also steep others in consternation and plught. And it is my impression that now also you are casting magic at me and inflicting a fever on me, and are plainly working sorcery over me, so that I am wholly filled with perplexity and ignorance” (Plato 1958 c, p. 32). This state of mind could have well motivated “lovers of truth” to deepen their thought, to seek the “whole” and “organically bound parts”, but only confused the ignorant.

Socrates said about himself:
„I am fond of divisions and generalisation, without them I would be unable to speak or think. And when at times it seems to me that someone else knows to perceive the whole and its organically bound parts, I follow in that someone’s every footprint ‘as if I had found a trace of God’ (Plato 1958 b, p. 105).” Socrates strove for cognition on the abstract-conceptual level and sought “that what is one and the same in all these things” (Plato 1958 b, p. 22). Nonetheless, he saw the dangers inherent in definitions and theories. It was good to seek as this enabled finding more and more, understanding more and more and not-knowing more and more. It was dangerous to believe that one had found. The belief that one had attained a final truth which relieved of thought caused thought, and in consequence action, to “trot around in circles”, closed within well-known concepts and existence schemas. We cease to search and discover. Dialogue as a living, spirit-filled language was to prevent the enclosure of thought by words deprived of symbolic depth, which no longer inspired the quest for understanding. This form of dialogue found recognition in heuristics, which seeks tools for improving creative thought.

The Socratic dialogue paradigm is not the only one. In dialogue we need not stop at questions which make us and our interlocutors aware of our shortcomings in knowledge offered as self-evident and complete. Dialogue can be a heuristic method in yet another way. The effect of the dialogical encounter of different narratives, meanings and truths can be the discovery of something that is not a direct outcome of any of these narratives, meanings or truths. Such a heuristic dialogue effect calls for the dialogue participants to possess a certain kind of openness, which can be explained by the concept of hospitality. This kind of openness accepts and tries to understand difference, but does not succumb to it.

Martin Buber suggested another dialogue paradigm. Buber rejected dialogue as a form of verbal communication and proposed seeing existence as a dialogue partner of the “I”. Buber notes that human life takes its course amongst objects and people and therefore consists of experiencing otherness. We experience to otherness of bodies and things, we also experience the otherness of other people. This is an important difference as objects come into contact with other objects but objects (Buber calls them “it”) do not overstep their boundaries, while the subjective “You” does not border on anything in an encounter, but finds itself in a relation (Buber 1974, p. 292).

Buber names three areas in which humans encounter the world:

1. the “technical” area, where the existential-objective “I-it” relation takes place,
2. the disguised monologue area in which “You” is brought down to “I” and the “encountered” is treated as an aspect of one’s own ego.
3. the true dialogue area, where “I” and “You” encounter each other point-blank and such encounters are anti-instrumental.

In the technical area we have relations in the modern-day subject-object schema. These are linear and one-way relations in which “I” is the active element which regards “it” as an object to utilise. The existential-objective attitude present in the technical area excludes dialogue. Neither is there a chance for dialogue in the disguised monologue area, where “I” is so restricted by itself that it is unable to perceive anything different from itself, and hence incapable of dialogue with “You”.

According to Buber in real dialogue the dialogue participants must be authentic. They must reveal themselves to the other side in the entire truth of their existence. In order for such dialogue to work, all its participants must be sufficiently involved in the encounter, and they must be sincere and open. The starting point of such dialogue is not aprioric agreement with the other side but acceptance of its
otherness. Otherness ceases to disquiet and begins to raise interest. In this dialogue paradigm we remain different and can draw on the otherness of what we encounter. We also learn to perceive that which is out of harmony with our perception, and to discover truths which do not stem from our knowledge and valuation system.

Still another dialogue paradigm has been put forward by Emmanuel Levinas. For Levinas the crucial concepts in understanding dialogue are “encounter”, “other” and “face”. He primarily saw encounter as liberation from loneliness and ultimately suggested that it was openness to infinity. The “other” is different from “I” and leaves a trace in the encountered. Encounters with the other are never neutral and always have meaning: they can produce good and truth, and call for responsibility towards and for other humans. They allow us to know ourselves better.

“Face” is the key to the infinite and carries the trace of God. In Levinas’ approach encounters with the other are religious acts which tear the individual from the boundaries of its own ego, direct it towards transcendence and in effect build the individual’s bond with God.

Such encounters are also the door to the ethical dimension. Meetings with the other are neither easy nor automatic, and require will and effort which not all are prepared to undertake. According to Levinas dialectical encounters with other humans always take place in the ethical sphere, where individuals learn to be with other individuals and discover themselves. Dialogue is an ethical relation.

Levinas, who experienced the birth of two totalitarian systems, fascism and communism, remarked that members of mass societies are characterised by anonymity and lacking social bonds, the effect of which is indifference towards the other. This in turn breeds helplessness and susceptibility to evil. Levinas’ appeal for the recognition of the other’s face, for encounter and responsibility-generating dialogue with the other, shows a way out of human-unfriendly spheres and suggests how to break the bonds of selfishness and indifference and avoid the temptation of isolation.

The specific features of the dialogue philosophy proposed by Józef Tischner cause it to be sometimes called the philosophy of drama. This philosophy sees the beginning of all philosophy in interpersonal dialogue. Tischner distinguishes two kinds of relations. One between humans and the world, the other between people. The relation of humans to the world (stage) differs from their relation to each other. In human-world relations Tischner sees the human existence sphere as a stage on which our daily struggles with the world take place. Human-human relations, on the other hand, are dialogical, where the Asker and the Asked stand face to face and the Asker makes the Asked a participant in a situation. Tischner views humans as dramatic beings who must open to other humans, the stage and passing time. In his opinion humans cannot be understood outside the context in which they are human. This context consists of God, the world and people. In his The Philosophy of Drama Tischner wrote: “To be a dramatic being means to exist at a given time and to open oneself to others and the world – the stage – in a given way” (Tischner 1988, p. 10).

Opening oneself to others is dialogical as in this encounter we see the Asker, who expects an answer. Our awareness of the need to provide this answer allows us to feel the Asker’s presence. (Tischner 1988, pp. 12 - 21). In the encounter we learn that there is another world besides our own – the world of the other. Thus encounter is the beginning of thought.

In Tischner’s dialogue paradigm encounter also has an agathological dimension in that it is an ethical situation. In an ethical situation humans see themselves as a “specific value”, an “axiological I” which may realise values. For Tischner the fundamental value opening the door to other values is truth and the primary source of ethical experience the discovery that there are other humans next to us.
Dialogue forces us to translate concepts and notions. It cannot exist without diversity, nor without the assumption of a common and universal reference sphere for this diversity. Through words the dialogue participants strive to attain a reality that is transcendent with regard to the narratives constructed about it. In the cognitive perspective dialogue makes sense only when we assume the existence of such a reality. This assumption lends rationality to strivings for the comprehension and transgression of the restrictions imposed by the languages and paradigms in which diverse discourses and life modes were constructed.

The skill of dialogue helps us utilise diversity in such a way as to enable the cognitive activity accompanying the encounter to enrich our own otherness without falling into uniformity or conflict. Dialogue allows us to experience other people and the world of interpersonal relations, and to discover and comprehend ourselves.

In pedagogy of creativity dialogue is a vital tool allowing improvement of the creative discovery of various worlds and existence dimensions. It also helps uncover the truth about humans, including our own selves. Through dialogue encounter becomes the beginning of thought, and sometimes also the source of truth. Dialogue helps us prepare for the wise creation of the world and the human being.

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IMPORTANCE OF SCIENTIFIC DATA FOR THE PROGRAMMES OF ECOLOGICAL EDUCATION
Aloyzas Burba, Daiva Daugvilienė
Society Institute of Ecology, Laisvės av. 58, LT-05120 Vilnius, Lithuania
aloyzas.burba@ecoinstitute.eu

Abstract

The importance of scientific data in organization of ecological education is discussed according to the example of carried out, on-going and planned programmes. Ecologization of the economy and society, manifesting itself as a new way of thinking, shows humanity’s desire to avoid a global ecological crisis caused by in recent decades disrupted balance of „Man - Living Nature“ system. The only way to assess the current ecological situation and to predict the future is based on scientific researches. Therefore, Society Institute of Ecology, established in 2010, combining science, education and business forces, carries out ecological education programmes by all means based on the results of scientific researches. Ecological education is necessary at all stages of human life, respectively adapting the presentation of scientific results according to the age and intelligence of the audience.

Key words: ecological education, scientific data

1. INTRODUCTION

Society Institute of Ecology was established and enrolled to the register of legal entities on December 2010. The founder of Institute is Daiva Daugvilienė, who has also established International School of Law and Business. D. Daugvilienė has been the director of Institute since the date of foundation. On 25th July 2011 Society Institute of Ecology after the expertise procedure was enrolled to the register of Education and science institutions (approved by the Minister of Education and Science of the Republic of Lithuania).

Society Institute of Ecology is carrying out two main activities. First, it is doing fundamental and applied researches in the field of biotechnology and aquaculture. Second, it is organizing ecological education. Ecological education carried out by Society Institute of Ecology is a true science popularization activity as it disseminates only the reliable results of scientific research and experimental development process (both internationally and through the projects done by Institute).

Society Institute of Ecology is a young institution has been existing only for 1,5 year, therefore the institute staff have not yet fulfilled significant ecological education projects within the country or joined large-scale international projects. But the institute scientists and administrative staff had carried out ecological education work in their former workplaces and have experience in this field. Scientists of the institute actively prepare applications to execute international and national projects.

Ecological education is very important for regional sustainable development. Keller (2002) claimed that another argument in favour of a certain renaissance of community life has been put forward by the ecological movement. The key issues of the development of the local and regional community and its environment are the subject matter and the goal of education and training (Orefice 2002). Through the
educational act of discovering and rediscovering the environmental heritage of the territory and its inhabitants, the individual and the local community are called on to play an active and original part in the development of the area and in the well-being of the collective itself. One favoured method aims to influence the adult public by educating children (Bartos 2002). Children’s groups and school classes, as well as many families, take part in ecological projects, which develop a strong sense of solidarity and shared responsibility for the ecological situation.

People power is the only hope for the future (Sarwer-Foner 2002). Change will only happen when we stand united, take ownership of processes, and demand what is right for what we need now, for future generations, and for the environment. Basic education is most effectively achieved when an ecological approach is used, multifaceted, interlinked, and diverse in terms of both content and execution.

We hope that the ongoing ecological education programmes will help to implement the vision of the institute - to become a centre of eco-society knowledge, introducing achievements of scientific research to a man and society.

2. EXPERIENCE IN ECOLOGICAL EDUCATION

Ecology scientists working for science and educational institutions located in Vilnius have been participating in Vilnius municipality ecological education programmes for years. These programmes are not intended to finance scientific researches, but in their reports many scientific research results have been provided. According to Vilnius ecological education programme the studies “Animal habitats in Vilnius city” (2005) and “Assessment of biodiversity in Vilnius city and preparation of conservancy regulations” (2006) were prepared. The study provided a lot of valuable data on the status of habitats and biodiversity in Vilnius city, detailed recommendations for protection of flora and fauna species in specific urban areas were prepared. Recommendations for protection have been agreed with relevant EU legal acts. Unfortunately, due to large volumes reports could not be used in publications nor posted on web sites. A valuable and original material were presented at international conferences (Ivinskis at al 2006), on its basis articles (Ivinskienė & Burba 2008) and publications (Burba et al 2007) were prepared.

All environmental projects mentioned in this article initiated by the Vilnius City Municipality have been coordinated by the current employee of The Society's Institute of Ecology Aloyzas Burba.

2.1. Experience in organization of events of ecological education

Triennial 2008-2010 programme “Implementation of complex measures of community ecological education” has been chosen for the discussion of events organization of Vilnius City Municipality education programme. This program is rich in events (forums, seminars, events for urban community, contests) also a publication on current environmental issues in Vilnius is going to be published. The most important event of Vilnius City Municipal Ecological education Programme - an annual Environmental Forum in Vilnius. Forum is organized at the end of a year and intended to get familiarized with the implementation of EU environmental directives, environmental policy of Vilnius city and technological innovations in the field of ecology, work and achievements of other environmental organizations and achievements. The Forum consists of thematic seminars on topical environmental issues and exhibitions of ecological work and achievements. Vilnius City Municipality, the Environmental Protection Division indicates the ongoing topics of the Forum:

- current news and issues in the city;
- ecological education and promotion;
• transport, energy saving;
• innovations of greenery and waste management;
• environmental monitoring and quality;
• environmental impact assessment;
• biodiversity research and conservation in the context of sustainable urban development.

Technical composition of the programme also states that 4-8 speakers should be invited to give lectures, 50 organizations should display projects performed in Vilnius city, results of technological innovations should be implemented in the field of environmental protection. Also, in the forum there were demonstrated videos pertaining to the ecology and environmental issues.

**Table 1.** 2008-2010 programmes “Implementation of complex measures of community ecological education”, conducted by Vilnius City Municipality, quantitative assessment of essential tasks.

<table>
<thead>
<tr>
<th>Programme tasks for the evaluation criteria</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>The exhibition &quot;Flower carpet compositions&quot; in Vilnius city, by units of compositions</td>
<td>60</td>
<td>22</td>
<td>26</td>
<td>108</td>
</tr>
<tr>
<td>Nature protection events for Vilnius city community and individual citizens’ groups. To organize Vilnius city territorial planning inspection-competition “Flowering Vilnius”, to organise inspections of the most beautiful balconies, apartment courtyards, individual houses, offices and enterprices and other territories; selected during the first examinations in elderships, by units</td>
<td>150/40</td>
<td>137/40</td>
<td>85/34</td>
<td>372/114</td>
</tr>
<tr>
<td>Nature protection events for Vilnius city community and individual citizens’ groups. To organise the examination of the best managed gardening communities, awarded, by units</td>
<td>31 garden plots</td>
<td>24 garden communities</td>
<td>43 garden plots</td>
<td>74 garden plots and 24 communities</td>
</tr>
<tr>
<td>Environmental Forum and Exhibition of achievements, poster presentations and exhibits, by units / total number of participants, by units</td>
<td>23/258</td>
<td>53/349</td>
<td>44/391</td>
<td>120/998</td>
</tr>
<tr>
<td>Qualification training of Municipalities and townships staff, participants, by units</td>
<td>22</td>
<td>16</td>
<td>31</td>
<td>69</td>
</tr>
<tr>
<td>Qualification training of household managing executives, participants, by units</td>
<td>23</td>
<td>29</td>
<td>10</td>
<td>62</td>
</tr>
<tr>
<td>Ecological training for gardening communities, participants, by units</td>
<td>42</td>
<td>20</td>
<td>reduced*</td>
<td>62</td>
</tr>
<tr>
<td>Ecological training for the owners of garage communities, participants, by units</td>
<td>30</td>
<td>7</td>
<td>reduced*</td>
<td>37</td>
</tr>
<tr>
<td>Seminars and practical training for society, participants, by units</td>
<td>8</td>
<td>During the Forum</td>
<td>reduced*</td>
<td>8</td>
</tr>
</tbody>
</table>

*client refused a service due to financial difficulties
The evaluation results of Triennial 2008-2010 programme “Implementation of complex measures of community ecological education” showed that it was the most difficult to organize training for such target groups as household managing executives, gardening communities, owners of garage communities and for society. There are several reasons of various target groups’ unwillingness to take part in organized training activities. The main reason, according to the participants of training, is that they are most interested in the legislation of their target group. Unfortunately, they learn this information in formal ways and more general issues such as climate change, they want to discuss in public forums.

Due to the consensus of customers and operators training for narrow target groups has been abandoned and the representatives of the focus groups were invited to participate in an environmental forum discussing Vilnius problems and their solutions, as well as global issues.

2.2. Experience in publication brochures, books and making video.

Publications and video film making are unified by the creation of ecological education measures with lasting value. Therefore, an idea, script, professionals (writers, cameramen designers preparing publications artwork, video, movie openings, choosing fonts, backgrounds and music etc) are needed to create these measures. Publication or video film subject, scope or duration and content are usually formed by Vilnius City Municipality in the technical task of the project. Detailed description of the job sometimes brings additional problems for executives, because of the different municipal officials, scientists and artists’ understanding of the task scenario.

Creative ecological education projects usually do not receive enough funding, so project coordinators try to attract more versatile specialists able to perform multiple tasks. So, in 2004 Vilnius City Municipality ordered a video film “Biodiversity of Vilnius city”. Researchers, who suggested plant and animal species or their habitats common in Vilnius for the video film, benefited from the fact that a professional photographer, employee of the academic institution joined in the project. He had collected a large archive of film material. It is impossible to create a video about the biodiversity of the city in less than one year, because plant and animal life is going according to seasons, animals migrate to the city in winter or to reproduce in spring. The film was complete only through the use of archival material. According to the comments of leading scientists, quality of the film is not suitable for large screens as a part of the materials was not even a digital format, but the film is unique because all material was filmed in Vilnius City.

The next film has also fulfilled the idea of Vilnius City Municipality. Its creators, scientists demonstrated the monitoring of closed dumps, scientific methods used. A famous Lithuanian television documentary creator V. Jankevičius, biology science graduate, but devoted his whole life to the films about nature, participated in the creation of this film. Professionally integrating new and old film material he created a professional and memorable educational video, which became the winner of an international nature protection Film Festival.

Eco-education publications are constructed in such a way to provide more original scientific information and to be artistically decorated and richly illustrated. In 2006 Vilnius City Municipality ordered to prepare a publication “Animal habitats in Vilnius”; its text was prepared by professional scientists. Photographs used in the publication were also taken by the same scientists. Thus, any resident of the city of Vilnius may recognize a photo of the habitat described in the Journal, get information based on the scientific research.
3. CURRENT ECOLOGICAL EDUCATION PROJECTS UNDER EXECUTION OF THE INSTITUTE

Currently, Society Institute of Ecology carries out ecological education among young people in two projects: Summer Camp for Schoolchildren and a national contest for students.

Summer Camp for Schoolchildren „HAPPY person – that’s ME!” has been organized since 2011. Children can choose one or several topics for their activities in this camp. Some of these activities are directly related to ecological education.

Activity „Scientific Nature Expedition“ – children carry out mini research, create eco itineraries and a unique map of the terrain, write Travellers’ diary, play simulation game, have ecological picnics on the grass, meet “Nature Knight”, write a letter to nature, learn how to shake a GEO cocktail and organise “Eco carnival”. In 2011 camp kids really enjoyed the famous scientist ornitologist’s "Birdwatching" primer. "Birdwatching" is all over the world a very popular activity practiced from childhood to old age. Involved in this activity, bird lovers learn to recognize birds, learn about their biology, how to record observation data. Millions of amateur bird watchers around the world contribute to bird migration monitoring, registering the migration routes, arrival or departure dates of birds, biology features. In the Children's camp acquired knowledge about the birds, as well as other scientists’ provided knowledge about other animal and plant ecology, creates a good foundation for ecological understanding. Learning takes place in nature with live examples; it is possible to compare a coastal area in the territory of the camp changed by human with a nearby vacant beach.

![Fig. 1. Birdwatching lessons in Society Institute of Ecology children summer camp „HAPPY person – that’s ME!”](image-url)
Other activities of the camp also have links with the method of ecological teaching. Workshop of old crafts – participants weave herbage wreath or rope, learn how to weave national sash by real olden loom, to spin thread by spinning-wheel, make hanging straw garden, to felt, to build a bird house, to make something from leather, to create soil art together with friends on the campsite. Photo and video workshop – children learn about artistic photography, learn the basics of photo art (taking photos of portrait, people, landscape). Young ambassadors learn a foreign language (English, Spanish, Russian), get acquainted with the activities of diplomatic work and the rules of international etiquette (simulation game “Protocol requirements in intercommunication”), learn how to present their country to foreigners, write a letter to one of the diplomatic agencies of foreign countries, meet the representatives of diplomatic services. Leadership and entrepreneurship – teach how to recognise good ideas, trust yourself, your success and the courage of your actions. Theatre stage – is where children are able to try shadow, parody, glove and emotion puppet theatre. Campers will participate in the creation of social theatre. Style, Fashion – the following secrets are disclosed: inner beauty (self-confidence, self-assurance, having an aim, love for themselves and the others), health (fitness, nutrition, healthy lifestyle habits) and environment (how you create and see beauty around yourself, what your relations with other people are).

National contest for school children „Are we responsible?“ The competition is organized to promote the harmonious development of society and the environment, pay attention to the Lithuanian students’ responsible consumption, raise awareness and encourage younger generation of self-expression and creativity.

Aim of the contest - to create a work, propagating responsible consumption, popularizing environment and fostering ecological culture, selecting one of the natural work elements (earth, water, air, fire). Choose your own genre – this may include: essay, poem, song, greeting card, painting, poster, photo, video, feature sketch, slogan, ceramic work, sculpture, collage, etc. The competition involves Lithuanian gymnasiums and school students from 7 to 16 years.

The works of contest winners are going to be exhibited in the Lithuanian Parliament House gallery from 17th September 2012 for 2 weeks. Opening ceremony will involve members of the Parliament, contest winners, their teachers and relatives. More than 150 of students’ works were presented for the competition, mostly drawings, but there were also collages, ceramic works, videos, essays, poems, photos. To assess the works, a commission consisting of professional editors, filmmakers, writers, a design professional, an ecologist and an environmental scientist was formed. Contest winners were the works which expressed the contest idea using artistic means in the clearest way.

4. CONCLUSIONS

Promoter of eco-education programme is a mediator who conveys scientific knowledge to general public. At best, scientists themselves become mediators, as language of science is often specific and difficult to understand for a non-specialist and popular presentation of scientific knowledge requires adaptation.
Fig. 2. One of the winner’s schoolgirl Julija Pryšmantaitė (9 years old) work.

Eco-education process can take place directly – various forums, training in specific target groups or competitions or indirectly – filmmaking, publications, preparation of television programmes, publication of information in mass media.
The biggest persuasiveness in the process of ecological education is achieved when scientists interact directly with the audience. In the Society Institute of Ecology this would be environmental training for students in a summer camp.

In the process of indirect ecological education it is very important to gather a team of professionals, as scientists environmentalists themselves are unable to perform. Specialists under the guidance of scientists or together with them create scenarios for movies or TV shows, film selected locations, animals or plants, sound record films, illustrate books, and perform other tasks assigned to their team.

The best ecological education is achieved by experts committed to taking environmental and ecological ideas, both scientists environmentalists and specialists of technical and artistic fields.

REFERENCES


CLUSTER-BASED CONVERGENCE ANALYSIS IN EUROPEAN HIGHER EDUCATION – PRELIMINARY FINDINGS

Alina Mihaela Dima and Simona Vasilache

UNESCO Department of Business Administration, Business Administration Faculty, Bucharest Academy of Economic Studies Piata Romana, 010701, Bucharest, Romania

Abstract

The paper analyzes the state of convergence in European higher education, in the Bologna framework, based on four indicators considered as representative for the key areas of studying convergence: national policies, internationalization, funding and quality assurance. Starting from longitudinal data series built using the values of the selected indicators from 2000 to 2010 (the decade was set taking into account the initial horizon of the Lisbon strategy), we group European higher education systems in clusters, based on their similarity, that is, potential for medium term convergence. These preliminary data may serve as a guiding methodology for further, more detailed investigations on the issue of convergence and divergence of HE systems in Europe.

Key words: convergence indicators, higher education, Bologna process, cluster analysis

1. INTRODUCTION

Starting for Fredriksson’s thesis (2003), we discuss, in the present paper, the terminological difference between harmonization and convergence. The European Commission imposed in 2002 the later term as the goal of its actions in the educational field, and as the first step towards harmonization, which still is not an objective of European policies. This counteracts the German fear, expressed by the Bundesrat in 2002, that the measures taken by the Commission in its coordinating actions will have as a secondary effect the homogenization of the European diversity and unity in difference.

Convergence is projected to take place gradually, organically, not on a formal basis. The desired effect is a broad harmonization, as far as the framework is concerned, leaving enough flexibility to each state to manage the internal details. According to Heinze and Knill (2008), despite all documents and research referring to the Bologna process, our knowledge remains limited, in what the degree to which the Bologna process has practically lead to convergence is concerned. The two researchers consider that there are insufficient theoretical concepts, which explains the differential impact of the Bologna process. Because in the higher education field data is mainly qualitative (Moses et al., 2005), developing quantitative indicators of convergence is a significant challenge. Heinze and Knill (2008, p. 498) mention two types of convergence: delta convergence, referring to the direction of the convergence of policies towards a concrete model, in this case, the Bologna model, and sigma convergence, meaning the diminishing of the variance of the national policies, over time. Still, sigma convergence may refer to getting closer to a dominant model, which is only partly adequate, in our case. The two types of convergence appear and should be studied simultaneously.

Another difficult issue arises when it comes to deciding the proper proportion between governance and decentralization. Too little guidance, which is claimed by some countries, may seem vague and
puzzling, allowing countries to implement the European directives in their own style, which finally erodes the idea of convergence.

Too much guidance increases the concerns of those countries seeing Bologna as a threat to the diversity of Europe. It would mean confounding governance for government. European governance in the field of higher education should be understood as a process of mutual involvement of all the players, including informal mechanisms of influence (Balzer, 2004).

The span of European governance in the field of higher education should include, besides the discussed coordination, a process of formulation of opinions. Formally, the awareness concerning the Bologna process is high but, as discussed, the content of this awareness, the validity of the information sources have to be improved. The national discourses on higher education have to be infused by the European values which the European Higher Education Area seeks to promote.

The exchange of experience, in the form of seminars, conferences, congresses, is another instrument leading to the formulation of opinions. But the main difficulty at this point is given by the capacity of diffusion of the information acquired in such occasions. In other words, the dissemination may be effective, but it generally isn’t.

The diversity of the instruments used in each country in order to fulfill the European requirements is another difficulty in reaching the “common” ground. What is relevant to one country is not relevant to another, this is why comparisons can be made only by enlarging, generalizing the standards up to the point where they become inefficient.

In 2007, OECD has developed a series of indicators, bases on surveys in its member countries, measuring autonomy (financial autonomy, staff policy autonomy with respect to hiring/firing and wages, student selection and course content) and accountability (evaluation mechanisms and funding rules). In Europe, the best performing countries, i.e., UK, Finland, Sweden and Denmark, also score high on autonomy, although there are some differences depending on the type of autonomy. On accountability, there is much more variance among the well performing countries with the UK high on both dimensions of accountability, while Finland is high on financial accountability, but not so high on evaluations.

In 2008, even if the majority of countries were implementing or in the process of introducing higher education, there was no predominant model for higher education governance in Europe at that time, diversity remaining the hallmark of European higher education. However, some common themes could be remarked (increasing public funding for higher education, granting autonomy to institutions in the management of financial resources, promoting the direct link between results and the amount of public funding allocated, and encouraging the diversification of funding sources and creation of partnership with business), as well as some common weak points such as (Veugelers and van der Ploeg, 2008):

- a common neglect in the reform process, are the policies concerning academic staff. Only very few countries are working on reforms to provide institutions with more room to maneuver in terms of staff. The Netherlands and the UK have a high level of autonomy through the whole process of recruitment of personnel, but on the contrary, in most countries at least parts of the process are regulated or supervised. Also, in terms of salaries and promotions, regulation and supervision are common.
the lack of professional management experience on the part of academic experts in senior-level positions. The authority of the Chief Executive has been reinforced in many countries. Although academic competences continue to be the main qualification for this post, managerial expertise and leadership skills are still considered only important assets.

- a large dispersion in governance characteristics, from low levels of autonomy, to relatively high levels of accountability. This is consistent with the complaint of overregulation in these systems. Nevertheless, the dimensions of (lack of) autonomy are different, with Germany and Italy particularly restricted with respect to students, course contents and wages, France on selection of students and both hiring and wages, Spain restricted in both hiring and wages.

In time, the increased autonomy and responsibility have changed the traditional models of self governance of the closed university community. Nowadays, the new governance models which split the responsibility, control and power of decision between all the involved parties, either internal or external, are well spread. There are some main mechanisms for coordinating and controlling the activity which include (Eurydice, 2008):

- **External ruling**: which refers to state or regional authority setting the functioning rules of higher education institutions;
- **External leading**: which refers to leading and coordinating function of all the external parties involved in the universities managerial councils activity (for example, governing councils made up of governors or administrative councils) and to which governing authority (ministry, for instance), gave some responsibilities;
- **Managerial self governance**: it refers to the leading staff (rector, president, dean), which sets the objectives and takes decisions related to the long term orientation, attitude and also the entire activity of the institution;
- **Academic self governance**: it refers to mutual governance (consensual governance) inside and between the academic communities of a higher education institution.
- **External governance.** In all the European countries, the general responsibility for higher education is assigned to the ministry (that governmental department run by a minister). (Eurydice, 2008)

Generally, the Ministry assures the conformity and compliance between universities’ activity and rules, ministerial codes and legal statute. It is also its responsibility to design the higher education policies which are aligned with institutional and/or national strategic plans and also with the general development. In some countries, the national strategic priorities, the official strategy or the plan for higher education development falls also under its control. The Minister elects the external (and also internal, sometimes), stakeholders as members of governing bodies at institutional level.

1. **National bodies of quality assurance** are an important element of the external governance of the higher education institutions. These are frequently in charge with setting the quality standards and performing the evaluations, and also with designing and implementing the policies and standards of quality improvement for the educational process within HEIs.

2. Usually, the Minister is backed up by a national counseling body called **Council for Higher Education, Advisory Council, and Research Council**, or in a similar way. Normally, these offer pieces
of advice on problems related to higher education policies, science or arts. Some cases require the attentive monitoring and analysis of the European and international environment so that their recommendations are coherent with the general context. Thus, sometimes, between the members of these bodies, we may find the executive managers of the higher education institutions, the representatives of other federal / regional ministers, unions, political parts, local/regional government, and of the students.

3. Each country has a national body formed by all the executive managers of public and private universities subordinated to the government. This is usually named *Rectors Assembly or Rectors Council*. These and their homologue bodies from the other countries make proposals to the minister, concerning the higher education development and give suggestions and opinions related to the legislative projects and to other normative papers in the field.

4. It is also possible for the minister to require counseling and expertise of some other bodies such as students’ unions or other students’ organizations, administrative councils, artistic education councils, researchers associations, PhD students.

The external stakeholders take part in at least one of the governing bodies of the HEIs from each country, exceptions being only Greece and Romania. On the other hand, not all the HEIs from Germany, Latvia and Poland have a governing body which includes external stakeholders.

In Germany, the lands have restructured partially the HEIs’ organization and administration. The most important objective consisted in strengthening the action capacity as well as the potential of each institution apart through an enrichment of the governing body’s decisional competencies. Moreover, in order to sustain institutional governance through external expertise, a leading council was created (Hochschulrat), having as main duties the selection of the university council members (Hochschuleitung), the controlling of the council of directors and the institution constitution approval.

In Latvia, the existence of a consulting body made of internal and external stakeholders is optional. The minister has the power to decide if a higher education institution needs a consulting body (presently, almost all the HEIs have such a body).

2. METHODOLOGY

The objective of our analysis is to quantify convergence and converge trends in the EHEA, based on four selected indicators, starting from priority directions of EU policies (delta convergence). We have chosen, based on literature, the indicators on which we want our groups of countries to be similar. For further research, these variables should be standardized, so that they can equally contribute to the similarities/differences between the countries. Then, we decided which clustering procedure we may use, in our case, principal component analysis and weighted distance analysis (Norusis, 2012).

We analyze convergence based on four pillars: national policies, internationalization, funding, and quality assurance. A set of indicators is proposed and tested for each of these categories, and the most relevant are retained in the analysis.

For the needs of the present pilot research, we have proposed four such indicators, each illustrating one of the mentioned directions of study.

- *ratio of Bologna-aligned programs to the total number of HE programs in the country*. This indicator measures the degree and the speed of alignment to the
Bologna requirements, at the level of policies leading to system restructuring.

- *ratio of out-going students in student exchange to in-coming students in exchange.* This indicator distinguishes between countries which only ‘export’ students to other HE systems, especially for the superior cycles of study (master and PhD), and countries where the internationalization process is more equilibrate.

- *ratio between state funding and grant-based funding.* This indicator measures the financial autonomy and accountability of national higher education systems.

- *number of universities in top 500 Shanghai/ total number of universities.* This indicator measures the quality of the teaching system, from the point of view of its excellence.

These indicators will be used in a principal component and weighted distance analysis, mapping the similarities/ dissimilarities of the sub-groups in the European higher education system.

We have used data from Eurostat and from the national reports (as of 2012) available on the EHEA website.

For the first indicator, the data look as follows:

**Table 1. Number of Bologna aligned programs over total HE programs in the country (first cycle)**

<table>
<thead>
<tr>
<th>No.</th>
<th>Country</th>
<th>Indicator 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Albania</td>
<td>0.89</td>
</tr>
<tr>
<td>2.</td>
<td>Andorra</td>
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</tr>
<tr>
<td>3.</td>
<td>Armenia</td>
<td>0.901</td>
</tr>
<tr>
<td>4.</td>
<td>Austria</td>
<td>0.99</td>
</tr>
<tr>
<td>5.</td>
<td>Azerbaijan</td>
<td>0.97</td>
</tr>
<tr>
<td>6.</td>
<td>Belgium/ Flemish community</td>
<td>1</td>
</tr>
<tr>
<td>7.</td>
<td>Belgium/ French community</td>
<td>1</td>
</tr>
<tr>
<td>8.</td>
<td>Bosnia-Herzegovina</td>
<td>0.95</td>
</tr>
<tr>
<td>9.</td>
<td>Bulgaria</td>
<td>1</td>
</tr>
<tr>
<td>10.</td>
<td>Croatia</td>
<td>0.98</td>
</tr>
<tr>
<td>11.</td>
<td>Cyprus</td>
<td>1</td>
</tr>
<tr>
<td>12.</td>
<td>Czech Republic</td>
<td>0.97</td>
</tr>
<tr>
<td>13.</td>
<td>Denmark</td>
<td>0.6</td>
</tr>
<tr>
<td>14.</td>
<td>Finland</td>
<td>0.99</td>
</tr>
<tr>
<td>15.</td>
<td>France</td>
<td>1</td>
</tr>
<tr>
<td>16.</td>
<td>Georgia</td>
<td>1</td>
</tr>
<tr>
<td>17.</td>
<td>Germany</td>
<td>0.77</td>
</tr>
</tbody>
</table>
The values of the out-going to incoming students ratio, for the considered countries of the EHEA, are presented in Table 2 below:

<table>
<thead>
<tr>
<th></th>
<th>Country</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.</td>
<td>Greece</td>
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</tr>
<tr>
<td>19.</td>
<td>Holy See</td>
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<tr>
<td>20.</td>
<td>Hungary</td>
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</tr>
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<td>21.</td>
<td>Iceland</td>
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</tr>
<tr>
<td>22.</td>
<td>Ireland</td>
<td>1</td>
</tr>
<tr>
<td>23.</td>
<td>Italy</td>
<td>1</td>
</tr>
<tr>
<td>24.</td>
<td>Kazakhstan</td>
<td>1</td>
</tr>
<tr>
<td>25.</td>
<td>Latvia</td>
<td>0.95</td>
</tr>
<tr>
<td>26.</td>
<td>Liechtenstein</td>
<td>1</td>
</tr>
<tr>
<td>27.</td>
<td>Lithuania</td>
<td>0.97</td>
</tr>
<tr>
<td>28.</td>
<td>Luxembourg</td>
<td>1</td>
</tr>
<tr>
<td>29.</td>
<td>Malta</td>
<td>0.98</td>
</tr>
<tr>
<td>30.</td>
<td>Moldova</td>
<td>0.96</td>
</tr>
<tr>
<td>31.</td>
<td>Netherlands</td>
<td>0.85</td>
</tr>
<tr>
<td>32.</td>
<td>Norway</td>
<td>0.98</td>
</tr>
<tr>
<td>33.</td>
<td>Poland</td>
<td>1</td>
</tr>
<tr>
<td>34.</td>
<td>Portugal</td>
<td>0.99</td>
</tr>
<tr>
<td>35.</td>
<td>Romania</td>
<td>0.98</td>
</tr>
<tr>
<td>36.</td>
<td>Serbia</td>
<td>0.97</td>
</tr>
<tr>
<td>37.</td>
<td>Slovak Republic</td>
<td>1</td>
</tr>
<tr>
<td>38.</td>
<td>Slovenia</td>
<td>1</td>
</tr>
<tr>
<td>39.</td>
<td>Sweden</td>
<td>0.88</td>
</tr>
<tr>
<td>40.</td>
<td>Switzerland</td>
<td>1</td>
</tr>
<tr>
<td>41.</td>
<td>Turkey</td>
<td>1</td>
</tr>
<tr>
<td>42.</td>
<td>Ukraine</td>
<td>1</td>
</tr>
<tr>
<td>43.</td>
<td>UK (England, Wales, Northern Ireland)</td>
<td>0.62</td>
</tr>
<tr>
<td>44.</td>
<td>UK (Scotland)</td>
<td>0.95</td>
</tr>
</tbody>
</table>
Table 2. Out-going to in-coming students ratio

<table>
<thead>
<tr>
<th>No.</th>
<th>Country</th>
<th>Indicator 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Austria</td>
<td>0.17</td>
</tr>
<tr>
<td>2.</td>
<td>Belgium</td>
<td>0.24</td>
</tr>
<tr>
<td>3.</td>
<td>Bulgaria</td>
<td>1.92</td>
</tr>
<tr>
<td>4.</td>
<td>Cyprus</td>
<td>2.69</td>
</tr>
<tr>
<td>5.</td>
<td>Czech Republic</td>
<td>0.29</td>
</tr>
<tr>
<td>6.</td>
<td>Denmark</td>
<td>0.21</td>
</tr>
<tr>
<td>7.</td>
<td>Finland</td>
<td>0.48</td>
</tr>
<tr>
<td>8.</td>
<td>France</td>
<td>0.11</td>
</tr>
<tr>
<td>9.</td>
<td>Germany</td>
<td>0.36</td>
</tr>
<tr>
<td>10.</td>
<td>Hungary</td>
<td>0.42</td>
</tr>
<tr>
<td>11.</td>
<td>Iceland</td>
<td>2.33</td>
</tr>
<tr>
<td>12.</td>
<td>Ireland</td>
<td>1.29</td>
</tr>
<tr>
<td>13.</td>
<td>Italy</td>
<td>0.39</td>
</tr>
<tr>
<td>14.</td>
<td>Latvia</td>
<td>1.84</td>
</tr>
<tr>
<td>15.</td>
<td>Lithuania</td>
<td>2.11</td>
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<tr>
<td>16.</td>
<td>Malta</td>
<td>2.37</td>
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<tr>
<td>17.</td>
<td>Netherlands</td>
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</tr>
<tr>
<td>18.</td>
<td>Norway</td>
<td>1.75</td>
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<td>19.</td>
<td>Poland</td>
<td>1.62</td>
</tr>
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<td>20.</td>
<td>Portugal</td>
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<tr>
<td>21.</td>
<td>Romania</td>
<td>1.84</td>
</tr>
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<td>22.</td>
<td>Slovak Republic</td>
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<tr>
<td>23.</td>
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<td>24.</td>
<td>Sweden</td>
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<tr>
<td>25.</td>
<td>Switzerland</td>
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<tr>
<td>26.</td>
<td>Turkey</td>
<td>0.90</td>
</tr>
<tr>
<td>27.</td>
<td>UK</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Data for the other countries in the EHEA were not available. The values of the third indicator chosen, grant funding over state funding, are presented in Table 3 below:
Table 3. Private funding over state funding for universities

<table>
<thead>
<tr>
<th>No.</th>
<th>Country</th>
<th>Indicator 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Austria</td>
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<tr>
<td>4.</td>
<td>Cyprus</td>
<td>0.19</td>
</tr>
<tr>
<td>5.</td>
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</tr>
<tr>
<td>6.</td>
<td>Denmark</td>
<td>0.03</td>
</tr>
<tr>
<td>7.</td>
<td>Finland</td>
<td>0.02</td>
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<tr>
<td>8.</td>
<td>France</td>
<td>0.10</td>
</tr>
<tr>
<td>9.</td>
<td>Germany</td>
<td>0.15</td>
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<tr>
<td>10.</td>
<td>Hungary</td>
<td>0.12</td>
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<td>11.</td>
<td>Iceland</td>
<td>0.09</td>
</tr>
<tr>
<td>12.</td>
<td>Ireland</td>
<td>0.05</td>
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<tr>
<td>13.</td>
<td>Italy</td>
<td>0.09</td>
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<td>14.</td>
<td>Latvia</td>
<td>0.10</td>
</tr>
<tr>
<td>15.</td>
<td>Lithuania</td>
<td>0.11</td>
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<tr>
<td>16.</td>
<td>Malta</td>
<td>0.24</td>
</tr>
<tr>
<td>17.</td>
<td>Netherlands</td>
<td>0.17</td>
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<tr>
<td>19.</td>
<td>Poland</td>
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<tr>
<td>20.</td>
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<td>0.06</td>
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<td>21.</td>
<td>Romania</td>
<td>0.02</td>
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<tr>
<td>22.</td>
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<tr>
<td>24.</td>
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<td>25.</td>
<td>Switzerland</td>
<td>0.10</td>
</tr>
<tr>
<td>26.</td>
<td>UK</td>
<td>0.32</td>
</tr>
</tbody>
</table>

Finally, the values of the staff to student ratio are presented in Table 4 below:
Table 4. Number of universities in Top Shanghai/total number of universities

<table>
<thead>
<tr>
<th>No.</th>
<th>Country</th>
<th>Indicator 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Austria</td>
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<tr>
<td></td>
<td>Belgium</td>
<td>0.5</td>
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<tr>
<td></td>
<td>Czech Republic</td>
<td>0.04</td>
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<tr>
<td></td>
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The resulting clusters, by principal component analysis, and distance weighted least squares graphs are presented and discussed in the next section.

3. RESULTS

The distance weighted least squares graph for the first three indicators (private over public funding, as compared with the outgoing to incoming students ratio and to Bologna alignment) is presented in

It may be seen that higher levels of the private to public funding ratio are associated with high values (three to four times more students going abroad than coming) of the outgoing to incoming students ratio, while moderate values of the outgoing to incoming students ratio (one to two times more students going than coming) reflect in lower values of the private to public funding ratio. This can be explained by the fact that, in Eastern European countries, the public funding is insufficient, leading to an artificial increase of the private to public funding (e.g., Slovakia). These countries are also great exporters of students, and less attractive for incoming students. To the other extreme, Western countries, and especially Northern Europe countries, having generous public funding, exhibit low
ratios of private over public funding, while their out-going to in-coming students ratios are also well below 1, as they are attracting far more students than they export. However, a balanced ratio between out-going and in-coming students, as it is the case in Slovenia, or Portugal, would be closer to the European model, promoting student exchange across educational systems. The contribution of the out-going to in-coming students ratio to the percentage of universities included in top 500 is presented in

Figure 1 below:

![3D Surface Plot of privpubf against bignalg and outginc](image)

Figure 1. The distance weighted least squares graph of private over public funding, as compared with out-going to incoming students and Bologna alignment
It can be seen that countries with the most universities in top 500 (Belgium, France, Germany, Netherlands, UK, or Switzerland), as compared with the total number of universities in the country, tend to be either much aligned to the Bologna standards, or rather eccentric in comparison to it. Their ratios of out-going to incoming students are unbalanced, being well below 1, meaning that these countries attract, on a competitive basis, much more students than they export. However, followers in the top, like Hungary, for instance, tend to attract about two students for every student leaving abroad, due to lower fees and proximity to countries like Austria or Germany. Differences exist, within the same region, as a country like Poland, although scoring similar to Hungary in terms of presence in top 500, is still a net exporter of students, reasons having to be looked for in deeper analyses of mentalities, old practices of studying and working in the West, internationalization policies, at the country and university level.
Figure 3. Projection of the four indicators in the bi-dimensional space

The projection of the four indicators in the bi-dimensional space shows that Bologna alignment is closer to the out-going to the in-coming students ratio, which is natural, while the private over public funding ratio tends to influence the number of universities present in top 500. The two complementary factors are, thus, standardization and differentiation. The balance between the two is, as far as the EHEA is concerned, the key of harmonization. The clustering of universities according to the four indicators, explained by two factors, is presented in Figure 4 below.

A first cluster is represented by the countries scoring high on standardization and which export students, but are rather not represented in top 500, and have low levels of private over public funding. These are the conformists, represented by Serbia and Croatia, Eastern European countries, rushing to adopt Bologna standards, but not prepared enough for the “first league”. A second cluster is represented by countries scoring moderately to low on standardization, which export, but also attract students, but which are still underrepresented in top 500 and have low levels of private over public funding. These are the candidates, among which Cyprus, Hungary, Portugal, Romania, Slovak Republic, from Central and Eastern Europe, but also countries like Denmark, Norway or Switzerland,
from Northern and Germanic Europe. These countries are still somewhat marginal to the convergence process, but making progresses towards it. The third cluster, comprising Belgium, Finland, Sweden, UK, can be labeled as the harmonized cluster, countries equilibrated on the two factors, both compliance with the Bologna standards and representativeness, as educational systems, in the world. Finally, there are some outliers, like Czech Republic, for example, whose representativeness is low, however, the attraction for foreign students is high, and the private over public funding ratio is also rather high. These cases have perspectives for migration into the harmonized cluster, if they continue their growth pace.

![Figure 4. Clustering of the countries after principal component analysis*](image)

*labels based on Table 1

4. CONCLUSIONS AND LIMITATIONS

One of the main limitations of the study is the non-availability of data for all the countries initially included in Table 1, which makes them not entirely comparable, and leads to clustering errors, due to missing data treatment. However, we were able to identify some patterns of reciprocal influence
between the indicators we proposed, and a grouping of these indicators into two explanatory factors. The educational systems in Europe balance between standardization and differentiation, at the intersection of these two complementary tendencies being possible to achieve harmonization. While the harmonized cluster is not very numerous, the pool of candidates is rather well represented, giving force to the process to continue and include as many as prepared from the candidate higher education systems.

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MULTILEVEL STRATEGY OF PROMOTING ACADEMIC MOBILITY
AT TECHNICAL UNIVERSITY
Elena S. Mishchenko¹, Irina V. Shelenkova¹
¹ Tambov State Technical University, 106 Sovetskaya St, Tambov, 392000 Russia

Abstract
Tambov State Technical University (TSTU), like the majority of Russian higher education institutions, is going through the period of changes connected with the integration into the European Higher Education Area. Academic mobility is a significant phenomenon in this integration processes of higher education into the world community. Enhancing academic mobility has called TSTU for the development of innovative training courses and teaching methods. This appeal resulted in the development of the training strategy for students and lecturers, promoting and stimulating academic mobility. It contains three basic components and is carried out at three different levels. Implementation of international specialist and teacher training strategy is aimed at the development of education quality.

Key words: academic mobility, Bologna process, ILAN course, educational quality, foreign language training, informational, social and cultural preadaptation.

1. INTRODUCTION
Globalisation and internationalisation have affected all spheres of human activity, including education. Creation of the European Educational Area according to the terms of the Bologna Declaration calls for the increase in the quality of education, development of academic mobility, the possibilities of lifelong learning, and opportunities of international careers for graduates. With respect to this, Tambov State Technical University (TSTU, Tambov, Russia) sets the training of internationally active and demanded specialists as one of its priority goals.

Every year we see more young people receiving additional qualifications, undergoing professional retraining in order to guarantee themselves competitive advantages at the job market. For achievement and maintenance of competitiveness in the internal and external markets for educational services it is necessary for higher educational institutions to pursue a policy of education quality, to develop new concepts in education process and to follow them. The developed national and international educational standards, elaboration of new strategies, search for methods and mechanisms of constant improvement contribute to the quality of education.

To achieve conformity with these criteria and to improve the quality of training, two special University divisions have been set up within the structure of the TSTU. The primary goal of the first one, the Centre for Engineering Pedagogy (CEP), is to train engineering teachers deserving ‘International Engineering Educator ING-PAED IGIP’ title according to IGIP standards. The second one, the Centre for International Professional Training (CIPT), has been established to offer programmes in engineering in English.
CIPT students study their respective degree programme fully in Russian and, at the same time, master core courses of their specialisation in English, in accordance with the programme of further professional training. After finishing the programme the final exam is passed, and students receive a diploma and a right to teach the area of their specialization in a foreign language. International specialist and teacher training concept has been developed, which represents a combination of three components: ‘engineer/economist with a foreign language knowledge – university teacher – researcher’. This concept aims to fulfil the ideas of the Bologna process, such as increasing academic mobility and life-long learning.

Over several years of the Centre’s work the strategy of international technical teacher, scientist and researcher training at the international level has been established at TSTU. The key idea of the strategy is the training of educators at three various levels, corresponding to different categories of learners. Learners have been divided into the following three basic categories: students who study at the faculties and institutes of TSTU; post-graduate students and young teachers of TSTU; educators who have an academic degree, an academic rank and significant achievements in the sphere of higher engineering education. According to this division, the following three levels of training are specified: undergraduates’ (first) level, postgraduates and young technical teachers’ (second) level, doctoral (third) level. CIPT carries out training at the first and the second levels. CEP trains the teaching staff at the third level.

2. INTERNATIONAL TEACHER TRAINING STRATEGY

2.1. Training at the first level.

For strategy realisation at the first level the concept of international specialist training has been developed by CIPT [1]. It represents a combination of three components: ‘engineer/economist with a foreign language knowledge – university teacher – researcher’. This concept is targeted at carrying out the ideas of the Bologna Process, such as increasing of academic mobility and life-long learning.

In the system of training developed at CIPT, a foreign language (English) is both an object of learning and means of training. The students master their General English communication skills from Level B2 (Vantage) to Level C1 (Effective Operational Proficiency) of Common European Framework of Reference for Languages (CEFR). They simultaneously study a variety of special engineering subjects in English. The number of English-medium courses, including lectures and seminars gradually goes up from the 1st to the 5th year of study. It is important to mention that these courses do not copy the Russian-language courses, but are additional to the general educational programme. This promotes acquiring of profound knowledge of both professional foreign language and engineering subjects.

Graduating from CIPT, the students are not only prepared to carry out professional activities at the international level, they also receive a qualification of a university teacher and are awarded the ‘Diploma in Higher Education Pedagogy’. During the 4th and 5th years of study students are trained in rhetoric, engineering pedagogy, teaching methodology, etc.

In the modern world it is accepted that higher professional education should include communication training and development of rhetorical and verbal communication skills. This is especially important for future engineering teachers. Rhetoric is one of the main components of pedagogical competence, as learning takes place during pedagogical communication, and teaching results are directly related to how well this component is formed.
Engineering pedagogy training is conducted using the MULTICEP complex, a multimedia training course in Engineering Pedagogy developed in 2004-2007 in the framework of TEMPUS project between Tambov, other Russian universities, Ukrainian, German and Austrian universities. This complex includes a textbook and a multimedia application in Engineering Pedagogy.

This component is realized with the help of the expertise of TSTU Centre for Engineering Education, which trains engineering teachers according to IGIP standards.

The work of a university teacher also includes scientific and research activity as its integral part. Thus, it became necessary to introduce the courses in English into the curriculum, which teaches students to communicate in international academic and research spheres, prepare them for academic exchanges and mobility. During these classes students learn to write academic abstracts and papers, participate in...
international conferences, conduct negotiations and make project presentations. During the period of training students have the opportunity to use the acquired knowledge in practice, take part in research projects within the Research and Educational Centres of TSTU, and participate in the international students’ conferences. The key ideas of the three-component concept are summarised in Figure 1.

Quality of Educational Services at CIPT’ questionnaire has been developed and distributed among CIPT students in order to identify the students’ satisfaction with the quality of education, to find out their needs and interests and also to analyse the influence of the three-component concept of bilingual training of students on the quality of training. The results of estimation of students’ satisfaction with the quality of educational services at CIPT have shown that students’ satisfaction accounts for 71%, that is 3% higher than the average level of students’ satisfaction at TSTU according to the estimation of results in the same period of time. The obtained outcome confirms that realisation of the developed strategy at CIPT promotes excellence in training of qualified and highly demanded engineers-teachers-researchers, and also stimulates the implementation of the fundamental principals of the Bologna Declaration.

2.2. Training at the second level

Last year CIPT started to realise the strategy of international technical teacher training at the second level. For this purpose the group consisting of post-graduate students and young promising teachers was organised. The full course of study at the second level is three years. At this level the CIPT sets the task to improve the knowledge of English in several directions.

The first direction is the perfection of General English. It is necessary because specialists can communicate perfectly well in a foreign language with their colleagues on the topics directly connected with their professional sphere, but they often experience difficulties in Students are taught to communicate in English in academic and research circles formulating their ideas in the situations of everyday communication. Besides, it helps to improve the four basic language skills (reading, writing, speaking, including pronunciation, and listening) up to Upper-Intermediate and Advanced level.

The third direction is Professional English training. Its purpose is to provide the group with common engineering and technical terms in a foreign language and to teach how to use them in the professional context. This direction helps teachers and post-graduate students to study the professional literature in English, to increase the spectrum of their professional knowledge, to promote their scientific development. The course of lectures and seminars in English will be developed by each post-graduate and teacher as the result of training in this direction. In the nearest future the developed courses will be included into the university curriculum for the engineering students of TSTU. It is planned to organise the work on course development with young teachers and post-graduate students in the form of small group interaction and individual consultations.

In the strategy in question great responsibility is assigned to the Department of Foreign Languages of TSTU which should prepare all the students for understanding and acquiring of the lecture material in a foreign language, and the teaching staff should develop their skills to discuss and express opinion in English during the seminars.

At the second level it is important not only to improve the command of a foreign language, but also to develop an international technical teacher. At this level of training great attention, as much as at the first one, is given to the disciplines of higher education pedagogy cycle. During the course young teachers raise their qualification in pedagogy and methodology of teaching engineering disciplines in a foreign language. Post-graduate students who have no basic pedagogic education, but are eager to start teaching career at the university, acquire pedagogic knowledge and skills necessary for this purpose.
The opportunity to participate in exchange programmes for teachers, international projects serves as a good motivation factor.

The second level of strategy realisation, as well as the first one, is based on the three-component concept of training ‘engineer with a foreign language knowledge – university teacher – researcher’. The difference is in the content of each component at different levels and the period of training (5 years for the first level and 3 years for the second level). As the training of international engineering teachers at the second level began not long ago, changes in the content of the courses and in the set of disciplines are possible. Adaptation of the developed programme to the actual needs and interests of the learners is also acceptable.

To find out post-graduate students’ and teachers’ satisfaction with the quality of educational services at this level. It is planned to develop questionnaires for this group, conduct interviews to share opinions, recommendations and wishes in order to improve various aspects of training process. The first results of this level realisation can be estimated in two years.

2.3. Training at the third level

CEP was set up at TSTU in 1999. Today CEP works in several directions to realise various programmes of pedagogic qualification excellence. One of primary goals of CEP in the international context is training at the third level according to IGIP standards. Training of the educators leads to awarding them ‘International Engineering Educator ING-PAED IGIP’ title.

The applicants who would like to study at this level must meet the strict criteria. The qualification of an engineer, an academic degree (doctor's degree or candidate's degree), an academic rank (professor or associate professor) and significant achievements in the sphere of higher engineering education, the experience of teaching engineering disciplines at the university, the knowledge of a foreign language are a must. It is favourable if the applicant is the author of the textbooks for engineering students, a number of scientific articles on the topics connected with engineering pedagogy, participant of international symposiums and conferences, etc.

CEP staff and educators assist in the work of CIPT. Teachers of the center, and also the professors who successfully accomplished their training at the last (third) level and are in ING-PAED IGIP register give lectures and seminars in English for the groups of students at the first and second levels. Besides, International Engineering Educators are perfect examples of possible achievements for those who have passed all the levels in the chain of international engineering teacher training at TSTU.

3. INFORMATIONAL, SOCIAL AND CULTURAL PREADAPTATION OF STUDENTS AND TEACHING STAFF

At TSTU a questionnaire was elaborated to evaluate what students know about the Bologna Process and academic mobility as its essential part. Different types of questions were asked about the essence of the reform. Interviews were conducted to understand what students feel about changes. About 150 students from different faculties of TSTU took part in the survey. It showed the following results:

- 3% of respondents know that Russia is the participant of the Bologna;
- 36% of students managed to name at least three main principles of the Bologna Declaration;
- 87% of respondents would like to take part in academic mobility programmes;
- 39% of respondents know the peculiarities of European university system;
2% of students have participated in academic mobility programmes.

In the interviews about academic mobility the students mentioned that they would like to know more about:

- opportunities to study abroad;
- the way educational process is organized in different European countries;
- the main advantages for students provided by the Bologna Process.

The results of the survey made it possible for us to conclude that students do not have enough information about the Bologna Process in general and academic mobility in particular. Only several students have the experience of studying abroad to share it with their fellow students. It means that it is necessary to provide students with the required information, which can help them to be prepared for a visit to a European university beforehand that is to have an adequate informational preadaptation.

In our opinion, for an effective international exchange students and teachers of TSTU should know the key ideas of the Bologna Process, understand the essence of changes in the educational sphere in Russia and Europe. Besides, they should be familiar with the structure of European universities, and distinguishing features of educational process.

In order to gain better knowledge of European educational system, to prepare oneself to study and work abroad, and, at the same time, to improve the level of English language knowledge, a training course “English for Students, Lecturers and Administrators of Technical Universities” was developed within the framework of the Tempus project “Innovative Language Curricula in Technical Universities (ILAN)”. Six institutions of higher education from Austria, Sweden and Russia, including TSTU, took part in this project.

Participation in academic mobility programmes means, as a rule, a rather long period of residing in a foreign country. Even good knowledge of English or the language of a host country cannot prevent a student or a lecturer from social and cultural shock if they are not prepared for a foreign experience. Talking about academic exchanges, adaptation difficulty can be caused not only by peculiarities of educational system of a host country, lack of knowledge of its main customs and traditions, but also inability to communicate in everyday situations.

Each participant of academic mobility faces the necessity of problem-solving in real-life situations and their simultaneous analysis from ‘native culture’ and ‘foreign culture’ positions. It develops certain qualities in a student automatically and often subconsciously: skill to choose the way of interaction with the world around; ability to think in a comparative aspect; intercultural communication skills; ability to recognize insufficiency of knowledge, which determines motivation to study; ability to change self-perception; ability to consider the native country in a cross-cultural aspect; knowledge of other cultures explored from within, etc. All these skills and abilities are acquired more quickly and effectively if the student has passed a social and cultural preadaptation course at his home university.

Theoretical and practical support of mobility development at TSTU is performed by International Relations Office which manages mobility process, provides administrative and informational support. Its staff monitors and distributes information concerning international mobility opportunities, helps academic mobility participants to organise foreign trips and to get visa. Periodically International Relations Office holds informational meetings and round tables on participation in mobility programmes for the University students and faculty.
TSTU near-term goal is the expansion of functions of TSTU International Relations Office. Its work on promotion of international contacts in higher education, consultations on international exchange programmes, search for grants, and help in execution of applications for grants will be enlarged by social and cultural preadaptation of students and teachers participating in international educational programmes. A student will go through an adaptation period more quickly if he is acquainted with national cultural peculiarities of the country of prospective training in advance. It is planned to start this programme at TSTU in 2012/2013 academic year. Social and cultural preadaptation will be conducted in a form of lectures, seminars, role plays, project work, individual and small group consultations.

Propagation of international activity results and achievements is very important. One of the tools of mobility result distribution at TSTU is public performances of students who have taken part in mobility programmes for the group of fellow students. The students who have this experience can also be involved as advisers on certain questions and problems of academic mobility.

TSTU is an actively developing centre of international academic cooperation. More than 400 students from 50 countries are trained at the Faculty of International Education. The task of the Faculty is to prepare the foreign students for training at Russian higher education institutions, to facilitate their complex adaptation to the conditions of living and training in Russia. Owing to various social and cultural events, actively involving both foreign and Russian students, foreign students quickly adapt to Russian realities.

For successful functioning of mobility programmes the following conditions should be observed:

- effective work of International Relations Office, dealing with mobility programs;
- information network, system of monitoring and feedback in the process of management of academic mobility programs should be developed;
- activity directed at maintenance and support of positive University image at the international level should be conducted in order to attract foreign students and faculty;
- infrastructure for social adaptation of foreign students (hostels, canteens, easy access to the Internet, etc.) should be constantly improved;
- foreign language learning by students and academic staff should be supported and promoted.

4. CONCLUSION

The process beginning from the strategy formulation to obtaining the first results of its realisation has taken several years. During this period of time the harmonious multilevel system of training and attraction of a greater number of different categories of trainees has been elaborated; the Centres within the structure of TSTU have been founded for implementation of this strategy; the core concepts of the Centres’ work have been generated.

The seven years’ experience of CIPT in implementing the three-component concept of bilingual training of students assures the preparation of qualified engineers/economists-teachers-researchers, who are highly demanded at international and domestic markets.

CIPT teachers are striving to increase the quality of education and take part in international projects, develop new curricula and innovative courses. In order to realise successfully the three-component
concept of international specialist training, CIPT actively collaborates with other divisions of TSTU: Faculty for Advanced Training of Teachers, International Relations Office, Research and Educational Centres. The Centre for Engineering Education and departments provide teaching staff for the centre.

To develop international specialist training further, CIPT has set itself new strategic goals – to internationalise educational programmes of TSTU, to develop academic exchanges of students and teachers and to open new educational programmes in English.

For academic mobility stimulation, the system, containing the following three important elements, was developed: maintenance and improvement of the educational quality at TSTU; foreign language training of students and teaching staff; informational, social and cultural preadaptation of students and teaching staff.

Due to this system serious results in developing TSTU activity in the sphere of Bologna reforms and academic mobility were achieved. These system elements are interconnected and imply an ongoing work on their perfection. Much work should be done on social and cultural preadaptation of TSTU student and academic staff in the nearest future.

For further development of international engineering teacher training, TSTU has set itself new strategic goals – to increase the number of international teachers, to internationalise its educational programmes, to develop academic mobility of students and teachers and to open new educational programmes in English.

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STUDENTS’ ACADEMIC MOTIVATION PROBLEMS
Lyudmila V. Fomina
HSBEI HPE «Krasnoyarsk State Agrarian University» (KSAU)
Russia, Krasnoyarsk, 90, Mira Avenue
E-mail: lyfomina@yandex.ru

Abstract
The article deals with the main problems of students’ academic motivation, with factors affecting the motivation. The analysis of diagnostics results of students’ academic motivation has been done, the data have been compared with the already available research results.

Key words: motives, studying motivation, higher education institution, educational process.

In the modern conditions the motivation for the forthcoming professional activity of the student plays the important role in the goals achievement of the educational process in institutions of higher education. The research of points related to students studying motivation is one of the points of the optimization of the educational-pedagogic process of higher education institution. This is predetermined by the fact that the student in the system “teacher-student” is not only this system management object but is the activity subject as well. The academic activity is the main one for student. As any type of activity the academic motivation is not homogenous and is affected by a number of specific factors. First of all it is affected by the educational system itself; educational institutions; secondly by the academic process organization; thirdly by the subjective peculiarities of the student; fourthly- by the subjective peculiarities of the teacher, in the first place by his attitudes system to the student, to his profession; fifthly- by the academic subject peculiarities

This paper goal is the research of the academic motivation of the students of the International Management and Education Institute of the Krasnoyarsk State Agrarian University. 126 students took part in survey. The author used the methods for academic motivation diagnostics of students (A.A. Rean and V.A. Yakunin, modification of N. Ts. Badmaeva). According to methods the leading academic motives of the students are: “professional”, “individual prestige”, “communicative”, “social”, avoidance motives”, “creative realization motives”, “academic-cognitive”.

Considering the impact of the above mentioned factors determining academic motivation one can state the following. The first factor is related to the changes which accompany the Bologna process joining and changes on the internal market of educational services. The main (general) task of the Bologna process is the foundation in Europe of «the most viable and dynamic economy of the world based on knowledge and being able to provide the stable economic growth, bug number and the best quality of jobs and tight social solidarity».

This task solution can’t be achieved without the education quality improvement, mobility increase and viability of graduates. This, in its turn, calls for a number of institutional (inside-system) transformations to which according to the opinion of the Bologna process participants there belong:
1. Formation of two-level system of the educational programs of higher education in such a way that the degrees of both the first and the second level (stages) can provide not only various individual and academic needs but the labor market demand as well. In connection with this since 2011 universities started to carry out the teaching by the “third generation” standards, which should provide the further development of the level higher professional education, with account of labor market demand and imply the education system: bachelor (not less than 4 years)- master (not less than 6 years).

2. The national educational systems compatibility system improvement by means of improvement of the procedures of acquiescence degrees and periods of education, development of the united qualification evaluation, taking into account the indexes of the academic load amount, academic process results, competence and educational program profile;

3. Higher education quality assurance by means of efficient quality systems on the universities level on the national and all- European levels, reasonable combination of the academic quality and applied character of the educational programs

The notion «education quality» is now little understandable and poorly described. Some persons under education quality understand student percent who have passed exams without bad and fair marks others the personality degree development but without qualitative evaluation and description of this development. Still other persons — number of graduates who have got the job according to diploma specialty. The fourth group of persons under the education quality understands the graduate readiness for four positions: readiness for work, Motherland protection, family life, reasonable leisure organization, education continuation, care of own health.

The notions and terms dictionary of Education Legislation of Russian Federation treats “the graduates’ education quality” as the definite level of skills and knowledge, of intellectual, physical and moral development, which the educational institution graduates have achieved according to the planned education and up-bringing goals.

At the present moment the education high quality provision is impossible without introduction into educational institution of quality management system (QMS). Processes and activity kinds register necessary for quality management system of KSAU includes:

- Administration activity in KSAU QMS
- Main processes of KSAU QMS
- Supporting processes of KSAU QMS
- Evaluation, analysis and improvement in the framework of the main and supporting processes

In 2008 the university has passed the certification (including international) of higher education quality management system, research and development for accordance with standard requirements State Standard R ISO 9001-2001 (ISO 9001:2000), State Standard R ISO 9001-2008 (ISO 9001:2008)

The Krasnoyarsk State Agrarian University has received the Russian and foreign certificates of the quality management system and namely Quality systems certification body “Sibiria-certifika” (K №11050),J-NET “International Certification Network”(2008-11-27, AT07509/0), Evrocert (№1374 /00).

4. The transferrable and accumulative credits system development and its continuous usage in the framework of growing all- European higher education.

The second fact is directly preconditioned by the impact of the first one, as the vast rearrangement has been done of the educational process in the University. Unlike «second generation», standards of the
«third generation» have the expressed competence character, their fundamental parts have been united on the base of commonness, the component structure is absent, workload instead of the hour equivalent is represented by credit units. Since 2011 KSAU performs educational- pedagogic activity in accordance with the “third generation” standards. Academic process organization using the credit units system is characterized by the following specific features:

- Personal participation of each student in his individual curriculum development on the base of wide subjects’ choice freedom; involvement of academic counselors into academic process, helping the students in individual curriculum development;
- Full academic process supportability by all the necessary learning aids in printed and electronic form;
- Point- rating systems usage for evaluation of academic subjects mastering by students.

The third factor is preconditioned by the specificity of students motivation. According to complex research one can single out three categories of students:

— The first category – the students who study under impact of some compelling external circumstances;
— The second category – students who comprehend the necessity of higher education in the future life, evaluate its purposefulness for the formation of their professional and life experience;
— The third category - students with high level of cognitive interest and academic activity who comprehend the social orientation of the academic-professional activity, its importance in the personal sphere.

Academic motivation as its’ any other kind is systematic, characterized by poly- motivation, orientation, stability and dynamics.

Educational paradigm, as the higher education priority, considers the orientation at person interests, at erudition formation, competence, development of creativeness basics and common culture, spotlighting the student as the active subject, receiving the education as the “personal knowledge”. The requirement connected not only with ability to study and re- study but to be ready for trials, for knowledge usage in non-standard situations, for repeated changes of one’s notions, world vision, world perception, continuous education during the life is becoming quite natural.

For today, there have been singled out the factors facilitating the formation of students’ positive motive for study:

• Comprehension of the nearest and final study goals;
• Comprehension of the theoretical and practical importance of the knowledge learned;
• Professional orientation of the studying activity;
• Tasks choice making the problematic situations in academic activity structure;
• Inquisitiveness and “cognitive psychological climate” in students group.

Besides the following factors may serve as factors of positive motivation:

• Educational material content. Educational material should be given in such a form as to cause the emotional response, to activate the cognitive psychic processes.
• Communication style of teachers and students as the various styles form the various motives.

• Character and level of academic-cognitive activity. While arranging the studying activity, the studying of each topic or paragraph should consist of three stages: motivational, operational-cognitive, reflexive-evaluation.

Very important is the condition of students’ interest formation to studying content and to studying activity itself – the opportunity to show in the studying process the intellectual independence and initiative. The more active the teaching methods are the easier it is to arouse in students the interest to them. The main way of the stable interest for studying is the usage of such questions and tasks which solution requires from the students the active search activity.

The big role in the interest formation for study belongs to problematic situation creation, students’ encounter with difficulty which they cannot solve with the aid of the knowledge they have; encountering the difficulty they become convinced in necessity of new knowledge acquisition or usage of old one in new situation. Only such work is interesting which requires the constant strain. The easy material not requiring the intellectual strain doesn’t arise interest. The difficulty overcoming in academic activity is one of the most important conditions of the interest emergence for it. The educational material difficulty and educational task leads to interest increase only when this difficulty is adequate, can be overcome, in other case the interest falls quickly.

The educational material and educational work ways should be sufficiently (but not excessively) varied. Variety is provided not only by student encounter with various objects in the process of studying but by the fact that one and the same object may reveal various sides. One of the methods of the formation in students of the cognitive interest is “suspension”, i.e. showing to the students of the new, unexpected, important in the habitual and every day. Material novelty is the most important precondition for the interest emergence to it. However the cognition of the new should base upon the already available knowledge. Usage of the earlier mastered knowledge is one of the main conditions for the interest emergence. The essential factor for the interest emergence for the educational material is its emotional coloring, vivacious word of the teacher.

While diagnosing the academic motivation of the students of the International Management and Education Institute the author has found out the following motives allocation:

- professional — 65,2 %
- communicative — 63,3 %
- academic-cognitive - 57%
- social — 56,2 %
- prestige — 48,6 %
- creative self-actualisation — 41,1 %
- Avoidance — 25,2 %.

One should note that there are gender differences, as it has been found out that the boys their own motivation differences from the girls. As for boys the communication motives occupy the first place, followed by social and academic-cognitive. The other authors have also found out the gender differences.
Besides, the author has found out the differences in motivation of students, studying with full costs reimbursement from the students whose study expenses are state- covered. The other authors also note it: the students of the first group self-esteem is approximately 10 per cent higher, than of the second group; aspiration to business achievements is expressed more vividly (18.5% against 10%); the importance of good education and professional training is valued more (40% against 30.5%); good command of foreign languages is esteemed more (37% against 22%).

The internal structure of the higher education reception motivation differs as well with “commercial” and “state- paid “students. For the second group the following motives are more important: “to get diploma”, “to get profession”, “to conduct research”, “to lead student’s life”, and for the first group “to obtain material well- being”, “to have a good command of foreign languages”, “to become a cultural person”, “to get the opportunity to study abroad”, “to master theory and practice of entrepreneurship”, “to get the respect among friends”, “to continue family tradition”.

The academic motivation diagnostics of state- paid KSAU students showed the following allocation consequence of the motives:
- Communicative – 66,9 %
- Academic- cognitive – 62,7 %
- Social – 62,5 %,
- Professional – 55,4 %
- Prestige – 54,9 %,
- Avoidance – 36,4 %,
- Creative self- actualization – 11,1 %.

For academic motivation strengthening there is the whole methods wet available which could be referentially divided into 4 units.

• Emotional: encouragement, reproof, academic-cognitive game, free choice of the task etc.
• Cognitive: the base on the cognitive interest, urge to alternative solutions search, creative tasks fulfillment, etc.
• Willed: academic demands submission, information about the obligatory results of teaching, conscientious attitude to study formation, etc.
• Social: the wish development to be socially useful, contacts and cooperation search, interest in collective work results, etc.

To the methods activating the creative activity of the students there belong training classes, methods of the group solution of the problems, methods contributing to the formation of the goal- setting skills, of planning, own intellectual activity analysis, psychic self-regulation, success programming etc. All these methods should contribute to their creative activity and motivation development.

According to other authors’ research one can single out the following main demotivating factors:

• Not interesting, formal teaching.
• Points bias, their big dependence on the subjective opinion of the teacher.
• Overload, excess of subjects and tasks.
Lack of clear, direct link of the studied subjects with the future job.

One should pay attention to the other aspects of academic activity as well. Comprehensive knowledge and account of the university teachers students’ achievements motivation is the important condition of the successful activity for formation of the professional competence of the modern specialists.

The work of university teacher can be characterized as the very hard work which embraces the teaching, research, pedagogic and organizational functions. According to research the respondents highly value the teachers’ qualification and academic process organization which according to the opinion of overwhelming majority goes without interruptions.

Special attention should be paid to efforts and interest of the teaching stuff, their readiness to help the students. Only two thirds (66,2%) of the interviewed in 2000 students suppose that the teachers work with interest, are ready to give additional explanation, aid and strive to make good specialists of students . What’s more the univocal answer «yes» was given by only 20,3 %. It causes serious concern as these data reveal the dispiriting fact of the teachers activity motivation decrease not only due to low wages level. The prestige of the teacher’s work has decreased as well.

The teachers have to take the outside job etc. This leads to deformation of professional- role standards of the teachers, what was stated already in 1996 in the research «Teacher of Moscow higher education institution». It’s highly probable that this criterion stabilization – the evidence of such standard rooting when the teacher tries to minimize his efforts.

Thus for to solve the problem of students’ academic motivation the complex system approach is necessary, taking into account both inside and outside influences on the academic motivation of students.

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INTEGRATION OF THE SCIENTIFIC AND EDUCATIONAL INSTITUTIONS INTO THE EAST- SIBERIAN SCIENTIFIC - EDUCATIONAL AND INDUSTRIAL CENTRE OF SIBERIAN DEPARTMENT (SD) OF RUSSIAN AGRICULTURAL ACADEMY

Nikolay V. Tsuglenok
HSBEI HPE «Krasnoyarsk State Agrarian University» (KSAU)
Russia, Krasnoyarsk, 90, Mira Avenue

Abstract

This article deals with integration of Siberian scientific and educational institutions into united East Siberian complex. The purposes of this foundation and directions of the work have been enumerated here.

Key words: integration, activity purposes, educational institution, research, training, activity principles.

The results of scientific – innovational and educational activity of the East - Siberian scientific - educational and industrial centre of SD of Russian Agricultural Academy are given in the article.

Conditions for formation of the uniform innovative scientific – educational, informational and industrial system of agrarian education for making the technology development, industrial and production zones are created on the Eastern Siberia territory. Interregional industrial and production clusters must become the basis. Realization of these projects will require radical structure modernization of the regional system of the educational institutions of all levels with emphasis to training the elite technological and engineering personnel and top managers for the innovative segments of AIC economy. For seven subjects such as the Republic of Tyva, the Republic of Khakassia, the Republic of Sakha (Yakutia), Krasnoyarsk region, Zabaikaliye region and Irkutsk region which make 43% of the Russian Federation territory the same personnel are trained by three higher educational institutions, they are Krasnoyarsk state agrarian university (KrasSAU), Irkutsk state agrarian academy (ISAA) and Yakutia SAA.

For to implement the concept of the higher professional education there has been created East – Siberian scientific – educational and production centre of SD of RAAS (hereinafter ES SEPC SD RAAS). It is an association (union) which unites agricultural educational, scientific, industrial and other institutions and organizations, which keep their independence, with real integration of two educational institutions with eight scientific institutions of Eastern Siberia with the shared equipment centers.

The Union activity purpose is to correlate and coordinate the scientific - educational and industrial activity of the Union founders as well as new members’ activity, who joined it according to the established procedure, to set and protect their mutual property rights and interests, which are protected by law.
The Union founder composition includes regional educational and scientific institutions of Russian Agricultural Academy and industrial organizations. The Union partners are the Governments and Ministries of agriculture in Krasnoyarsk region, Irkutsk region, the Republic of Sakha (Yakutia), the Republics of Khakassia and Tyva, Sberbank of Russia; Krasnoyarsk food corporation, KrasEnergo, Federal Service for Veterinary and Phytosanitary Surveillance, Russian agricultural bank and others.

The main purpose of scientific and educational policy in East Siberian Scientific Educational Production Center is to provide training of the specialists, scientific, academic and teaching personnel up to the world quality requirements, to use educational, scientific – engineering and innovative potential effectively in order to develop AIC economy. To achieve the purpose it is necessary to solve the following tasks:

- development of the scientific research as the basis of education fundamentalization, the facilities for modern specialist training, systematic balance of the fundamental, exploratory and applied research with the competitive commercial developments;
- priority development of the scientific research which are aimed to perfection of the education system at all levels, common use of new educational and informational technologies, perfection of scientific – methodological assurance for educational process, improvement of training quality and continuing education for the academic and teaching personnel;
- development support in the sphere of high technologies in order to produce goods and services on the basis of them, to enter domestic and foreign market, to broaden international integration in this area, to make conditions to attract foreign investments;
- making the conditions for personnel training and retraining in the sphere of innovations and scientific – engineering entrepreneurship, which provide innovative activity increase in the system of education, attraction of the additional extra-budgetary financial resources.

The strategic partners of ES SEPC of SD of RAAS are:

- Sustainable and necessary suppliers of equipment and services for support and completion of the main tasks, provision of the organizations for having practice, educational programs and others. Interfacing with former graduates, who became the enterprise heads, local administration heads and entered the Association of Graduates and the Board of Guardians is significant.

- Defined within the government policy - Bologna process - finding of the international partners. Contacts with the international funds, associations, programs, vice-rectors on the international relations in the Russian city higher education institutions, and with the international services of the country educational and scientific institutions are made and maintained at present.

- For expenses decrease on training and quality increase it is necessary to choose enterprises and organizations where to study the processes efficiently in the industrial conditions. One of the ways to perfect professional training is to attract the employers to formation of the agrarian production human resources.

- Other higher education institutions and SRI which train on the related professions are for experience exchange, shared use of equipment and laboratories. Not only students but scientific personnel are trained in these laboratories by means of postgraduate education.
Organizations, SRI, firms in the departments of which the chair subsidiaries (KrasSRPTI, Krasnoyarskgosplem, Forest Institute named after Sukachyov, Krasnoyarsk SRI of agriculture of SD of RAAS, GosSRTI) are created. Various social groups both customers and developers are involved into innovative activity.

Creative contacts with academic science institutions are kept that allows to introduce the developments of the educational institutions and scientific institutions fast. Scientists from the academic institutions, qualified practitioners are involved into training process. Students, higher-education teaching personnel, post graduate students work in many laboratories in the city. The best specialists from krai and region are invited to work in the Dissertation Councils.

The scientific-innovative, scientific-technical and education policy in ES SEPC SD RAAS is based on the following principles:

- resources concentration on priority research directions, research and development complete cycle resulting in ready products
- unity of scientific and educational processes and their direction at the economic, social and spiritual development of society
- the support of scientists, scientific teams, scientific and pedagogical schools, development of activity of youth
- support of entrepreneurship in the scientific-research area, science and education integration into the international community

Well known in the country and abroad scientific and engineering schools of the university will make the basis for formation of the scientific research direction spectrum. The main directions of the innovative activity are related to development of new technologies which solve the issues of the region AIC, regional and Russian economy and provide entrance to the world markets with competitive production. Development and use of energy – and resource – saving technologies of Siberian AIC and modeling and optimization of the complex systems; technologies of advanced processing of raw materials and material, synthesis of the medical products and food additives; development of new drugs for prevention and treatment of animals; creation of the renewable and environmentally friendly sources of power for the agricultural consumer power supply; ecology and rational use of natural resources are among them.

Intellectual property is protected by the certificates of authorship and patent rights.

The scientific-educational potential of ES SEPC SD RAAS has the following characteristics:

- total employees number -2100
- number of students in the institutions being in the process of unification – 31 thousand persons
- number of full time students 13,34 thousand persons
- teaching staff number (with part time lectures)- 1100 persons, including 200 professors (18%), associate professors -700 persons (63,1%)
- total budgeting of the educational activity of the universities makes up 1164 million rubles
- non-budget sources money 398 million rubles
- teaching aids value 270 million rubles
Krasnoyarsk SAU experience in preparation of scientifically pedagogical and professional staff allows to have modern staff policy in close cooperation with scientific research institute of SD of Russian Academy of Agrarian Sciences, regional authority of agriculture and agro-industrial complex enterprises, being based on an example of a target intake in the universities, first developed for the Russian Federation Universities. In Krasnoyarsk region there is a high preparedness of regional and municipal heads to solve problems of scientific and staff supply of agrarian and industrial complex. In the law of Krasnoyarsk region from 9/30/2004 about the regional target program «Staff supply of agrarian and industrial complex of Krasnoyarsk region in 2004 - 2008» there are guarantees not only about preparations and retraining, but also about employments of young experts of agricultural production. This experience is successfully spread in Siberian region.

Scientifically-educational system line allows to carry out a selection of the most talented students for each subsequent level of scientifically-educational system in hierarchical sequence at a multilevel education system.

According to Russian Academy of Agrarian Sciences, Krasnoyarsk scientific research institute of agriculture, Krasnoyarsk institute of animal breeding, the scientific research institute of agrarian problems of Hakassiya, Tyva scientific research institute of agriculture, the Yakut scientific research institute of agriculture, scientific research institute of agriculture of the Far North and the Chita scientific research institute of agriculture plans there are researches by doctors and candidates of science with the following defence in KrasASU dissertational councils.

In Krasnoyarsk State Agrarian University there is scientifically-research work within 19 international agreements: Northeast agricultural university (CIR), University of Queens (Bangladesh), Agricultural university (Mongolia), the Georgian state agrarian university, (Tbilisi, Georgia), University of Nicosia (Cyprus), Hejjudzjan International Trade and Economic Institute, Dehorn University (France), Innovative Eurasian University (Kazakhstan), University in Belgrade (Serbia), Agronomical faculty (Yugoslavia), Kaposvar university (Hungary), the Beijing Aerospace University (CIR).

FSEI HPE “Krasnoyarsk State Agrarian University”, tending to correspond to the level of the best agrarian universities of the world, following a strategic direction of the activity, marks out the following forms of realization of its projects:

1. The further integration of operating scientifically-educational subdivisions of university with East Siberian Scientific Educational Production Center, purchasing of innovative scientifically-educational programs and methodology for staff improvement skills.

2. Creation and development of the structures of the innovative type providing formation of a complete scientifically-educational- innovative and industrial complex.

3. Working out and start of effective interaction mechanisms of elements of an innovative infrastructure.

According to the themes of Ministry of Agriculture and Food Issues of Krasnoyarsk region during 2006-2009 within SD RAAS the following programs have been developed and done:

1) Development of agriculture and regulation of agricultural production, raw materials and the rations markets in Krasnoyarsk region during 2009-2011 and for the period till 2017;

2) The Program of development of specialized meat cattle breeding in Krasnoyarsk region;

3) The Program of development pig breeding in Krasnoyarsk region;
4) The Program of development of sheep breeding in Krasnoyarsk region;
5) Working out of tools of regulation of the regional market of bakeries;
6) Work out the analysis program and an estimation of a financial condition of the agricultural enterprises in Krasnoyarsk region to identify the most effective mechanism of rendering state support.

KSAU comprises 2 branches, teaching-methodical center, 5 representative’s offices. The educational-scientific process is supported by 18 institutes, compromising 73 chairs.

The Krasnoyarsk State Agrarian University possesses the telecom infrastructure. 136 servers of various purposes are united in one corporative net.

In 2007 the KSAU won the competition of Economic Development Ministry for the creation of business-incubator. The equipment for amount of 21, 3 million rubles was purchased at the expense of the federal budget.

In 2009 FSEI HPE KrasSAU and the Institute of Innovative Development created in its structure (agrobusiness an incubator), together with the teaching staff prepared 18 innovative developments and projects for regional Krasnoyarsk Technopark. The best innovative developments and projects are annually printed in «Scientific potential of Siberia» catalog and set out on a transfer of technologies and the International scientific and technical center web sites of Russian network.

In 2010 KSAU has been audited by London Bureau for quality systems certification for correspondence to standards of UKINTCERT 19001:19 (№ 003262 of 15.01.2010).

University Scientific work is organized and spent according to perspective and annual plans together with 6 scientific research institutes of ES SEPC SD RAAS. For last five years 6 kinds and hybrids of agricultural crops are created, 30 vaccines and serum, 97 formulations are developed. According to the research there are 69 patents, 122 monographs and 195 textbooks and manuals with signature stamps of SibRuMtSa and the Ministry of Agriculture of the Russian Federation.

KSAU has created the system of involving the students into the processes of socio-economic development of territories. The aims of this system are:

- increase of practice oriented students education by means of real socio-economic sector practical tasks solution
- offers elaboration for programs correction for socio-economic development of districts

The number of dissertations defended in dissertation boards of KSAU increased 2,5 times – from 17 in 2005 to 43 in 2009. Totally for the period of time 2005-2009 in the dissertation boards of KSAU there have been defended 122 dissertations.

The innovative activity since 2005 has acquired the status of main activity type together with education and research.

KSAU every year purchases the devices and equipment for scientific and research laboratories for amount of 20 million rubles.

The basic directions of innovative activity are connected with development of new technologies solving problems of agrarian and industrial complex in the region, the regional and Russian economy, providing a release on the world markets with competitive production. Among them:
Technologies of deep processing of raw materials and materials, synthesis of medical preparations and food additives;

- Technologies of deep crude and stuff processing, synthesis of medicine and food additive;
- Creation of renewable and environmentally-friendly sources of energy to provide with energy of agricultural consumers;
- Ecology and rational wildlife management;
- Estimation of ecosystem conditions on microbiological indicators;
- Ecological bases of use and land reclamation in Siberia.

- Production technologies
- Reasonable utilization of tractors in agro-industrial complex of Siberia
- Economic mechanism formation for the stable development of agro-industrial complex branches
- Modeling and optimization of complex systems
- Cadastral registry formation problem and land resources management
- Geodesic support for the creation and keeping of cadastral registry
- Distance education development

Many mentioned kinds of technological developments either have no analogs or essentially surpass the existents.

In addition here are some technological works which development is provided in the framework of innovative programs of ES SEPC SD RAAS:

- The equipment and technology development for agricultural raw materials processing at the enterprises of food industry
- Optimisation of new generation technologies with usage of local plant and non-traditional raw materials at enterprises of food industry
- Biotechnologies development for biological preparations for the fight against root rot of cereals
- Energy-saving technologies for agricultural crops products
- Technologies, methods, equipment introduced in plant-growing and cattle-breeding

On the base of KSAU Ministry of Agriculture of RF, Russian Academy of Agricultural Sciences, Department of Agricultural and Alimentary Policy of the Krasnoyarsk Territory Administration in 2007-2009 held the scientific-practical conferences:

- organizational-economic and legal bases of seed growing, with the participation of 40 scientists, heads of agricultural enterprises of Russian Federation
- Reasonable allocation of agricultural crops – the basis for agro-industrial complex development – with participation of 100 scientists, heads of agricultural enterprises of Russian Federation
The following research programs have been completed at the order of Ministry of Agriculture and in the framework of agricultural policy of the Krasnoyarsk Territory:

1) Agriculture development and agricultural products, raw materials and foodstuffs market regulation in the Krasnoyarsk Territory for 2009-2011 and up to 2017.

2) Special meat cattle-breeding in Krasnoyarsk Territory

3) Pig breeding development program in Krasnoyarsk Territory

4) Sheep-breeding development program in Krasnoyarsk Territory

5) Regional cereal products market regulation tools elaboration

6) Financial state analysis and evaluation program elaboration for agricultural businesses of the Krasnoyarsk Territory with the purpose of the most efficient tool of the state support rendering

7) Scientific research conduct for evaluation of state support efficiency for agricultural manufacturers of the Krasnoyarsk Territory

8) Fishery program development of the Krasnoyarsk Territory for years 2007-2010 and for the period up to 2015

9) Scientifically based norms elaboration of electricity consumption for agricultural consumers in cattle-breeding

10) Agro-industrial complex development program elaboration for years 2007-2010 and for the period up to 2015

The university trains researchers and developers of new generation able to use their potential in science and practice. Nine entities of various directions employ up to 1250 scientists, post-graduates and students.

Within the commercialization of scientifically-educational activity in FSEI HPE KrasSAU the program of enterprises creation and development of small and average business is being realized. The founder in 22 enterprises of small and average business is East Siberian Scientific Research Educational Center. There are some of them:

1) Enterprise “Arctic” – procurement and processing of fish and deer meat

2) PLC “Teplophone” – heaters manufacture for village living premises and cattle breeding accommodations

3) Research Center “Geodesy”- services in the area of land survey works on the base of new technologies

4) PLC “Krasnoyarskenergoservice” – business transportation department elaboration

5) Collective farm “Sayany” – highly productive forages crops growing technologies

6) PLC “Farm Minderlinskoye”- new technologies of crops growing and cattle breeding introduction.

In PLC «Farm Minderlinsky» field experiments on fodder crops – 39 kinds ( Sudanese grass, sugar sorghum, Columb grass, fodder beans, etc.) have started. On the basis of it two regional forage and husbandry seminars have been carried out. The results helped to identify perspective forage crops which were included into recommendations to agricultural commodity producers in
the Complex program. Security documents on grassy mixes have been received. The potato selection laboratory created at university from 2006-2009 breeds new kinds, tests and estimates hybrid numbers of potatoes. On Scientific Production Complex "Borsky" experimental field in 2009 there were collection nursery with 86 kinds and hybrids; tests nursery – the estimation of 20 hybrids and 25 kinds; 2 kinds are set out in state sort test.

The effective commercialization preconditions are:

- Agro- business incubator development on the base of innovative potential of allied universities, research institutions
- University development fund creation with the aim of small knowledge-intensive technical businesses
- Research and introduction works conduction in the framework of scientific-technological processes of agricultural production
- Viable technologies and new agricultural crops development and promotion for plant-growing products manufacture
- Venture and joint- businesses creation for research results introduction
- Increase of students training and post-graduates qualification

We have made the first step on a way of integration of science and production formation, the East-Siberian scientifically-educational and industrial center of SD Russian Academy of Agrarian Sciences on a functional basis is created, and it successfully solves the problems. That has allowed evolutionally to create a center as the single legal entity.

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DO RUSSIAN UNIVERSITIES TEACH THEIR STUDENTS TO BE CORRUPT?
SOME EMPIRICAL EVIDENCE FROM THE FAR EAST

Elena Denisova-Schmidt, Elvira Leontyeva

University of St Gallen, Gatterstr. 3, 9010 St. Gallen, Switzerland, elena.denisova-schmidt@unisg.ch
Pacific National University, ul. Tikhookeanskaia, 136, 680035, Khabarovsk, Russia, elvleo@yandex.ru

Abstract

Based on one empirical study the paper illustrates how universities influence students’ attitudes regarding corruption in general and academic corruption in particular. Analyzing this target group – students – is especially important because these young people will lead Russia in the next 30 years; hence this study might forecast whether or not the current corruption situation in Russia will change.

Key words: university, Russia, corruption, gifts, informal practices, plagiarisms.

1. INTRODUCTION

Conducting empirical studies on such delicate topics as corruption in Russia is not an easy task. It is especially challenging to analyze corruption in the academic sector. The reasons for this are twofold:

1) Researchers might be offenders themselves and might be involved in corrupt actions actively (as actors) or passively (as observers); and

2) Researchers might be considered as ‘whistleblowers’ by institutions with which they are affiliated.

Take for example the case of the Russian scholar Igor Groshev: After conducting his empirical investigation into the sources and roots of corruption in Russian law enforcement authorities at the Juridical Institute in Tiumen’ and publishing his study outcomes in 2008, Groshev was dismissed from his academic position and asked by the local court to disprove his previous results.

30 The results of the study have been presented in the colloquium of the Department for Politics and the Economics Research Center for East European Studies at the University of Bremen, led by PD Dr. Heiko Pleines. We would like to thank Professor Alena Ledeneva and Professor Martin Huber for their valuable comments and discussions.

31 In our research we use the definition used by Transparency International, which defines corruption as ‘the abuse of entrusted power for private gain’. Private gain is usually understood not only in a financial sense, but also in the sense of status and influence (cf. Ledeneva 2009: 258).

32 It is hardly possible to carry out such a study without involving insiders; insiders help to ‘open’ doors and/or interpret results.

Nevertheless, studies on corruption have been conducted and published. Scholars usually focus on how often and in what contexts corruption occurs, and less on the role of the university in this process (cf. Kuz’mínov 2002, Magnus et al 2002, Galitskii/Levin 2004, Shishkin 2004, Titaev 2005, Fedorenko 2005, Shmakov 2007, Rimskii 2010). This research project will address this shortcoming, and will be devoted to the influence of the university on students’ attitudes toward corruption.

Research Design

The pilot study was conducted in early September 2012 at two universities in Khabarovsk. Khabarovsk is a major Russian city located in the Far East with a population of more than 500,000. Khabarovsk is home to 12 universities; this study was organized at only two of them. 42 persons participated in the survey: 30 respondents from the first-year students and 12 respondents from the fifth-years. Students were chosen randomly.

First-year students were approximately 17 years of age, while fifth-year students were around 21. Both genders were represented almost equally: 13 male students and 16 female students from the first year (1 person did not respond) as well as 5 male students and 7 female students from the fifth year, while the majority of participants were from the humanities: 20 first-year students and 7 fifth-year students, and only 7 first-year and 3 fifth-year students from the sciences (figure 1 and figure 2):

![Figure 1: Gender balance in the survey](image)

34 We intend to look at students who are just arriving at universities and students who are finishing their university studies and compare the outcomes.
Some of the students were originally from Khabarovsk; some of them came from other cities and villages to study in the capital of the Russian Far East. There were more students coming from small towns and villages (locations with less and more than 50,000 inhabitants) in 2012-2013 that it was in 2008-2009 academic years (figure 3):

The questionnaire for the first-year students consisted of 18 closed and open questions asking about their experiences with corrupt practices in daily life and at school as well on their expectations for university study. The questionnaire for the fifth-year students consisted of 17 similar closed and open questions covering their experiences with corrupt practices in daily life and at universities as well on their fulfilled or unfulfilled expectations for university study. The results of the questionnaires were complemented by 4 informal, unstructured expert interviews.
The pilot study was conducted completely in Russian, a native language of all the persons involved. No language-based misunderstandings are expected.

2. PRELIMINARY RESULTS

2.1 Solving problems using connections and giving bribes in daily life

Many of the students have already observed when their friends and relatives have solved some problems using connections (figure 4) and by giving bribes (figure 5).

Some students specified the institutions and situations in which their friends and relatives have used connections and given bribes in order to solve problems; some did not provide an explanation, while others students refused by arguing: ‘one cannot talk about it’ or ‘too many things to remember’. Some answers were difficult to classify; for example, ‘obtaining tickets with a discount’ or ‘car accident’, where many institutions and actors might be involved (for example, in the last case – ambulance, police, insurance, car repair, morgue). Nevertheless students have more evidence of protectionism and bribes in two areas: job search and universities (table 6). This might be explained by the fact these two areas are closer to the young generation of people between the ages of 17 and 21.

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35 It may have also been their personal experience.
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<td>0</td>
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<td></td>
</tr>
</tbody>
</table>

Table 6: Situations where problems might be solved by using connections and bribes

Problems raised at universities | 1\(^{st}\) year | 5\(^{th}\) year | connections | bribes | connections | bribes |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>university entrance</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>exams</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>general problems</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7: Problems solved at universities using connections or giving bribes

2.2 Giving bribes at universities
First-year students were asked if they had ever heard about bribing at universities before. Fifth-year students were asked about their experiences with bribery at universities. If they answered yes, both groups were requested to specify (figure 8):

![Figure 8: Bribery at universities](image-url)
It is apparent that students who have just arrived at universities have heard more about bribing (4/5) than students who are almost finished with their studies (1/2). This might be due the fact that the universities are not as corrupt in reality as many people argue. It might be also due the fact the older students are more hesitant to talk openly about it as their freshman colleagues: The youngest students even described possible tools used in such situations, dividing them into monetary and non-monetary forms (figure 9):

![Figure 9: Monetary and non-monetary forms of bribes](image)

The other possible explanation for this tendency might be the fact that all of these young students enter the university after *EGE* and probably start gathering such ‘experiences’ very early indeed. One third of respondents observed some violations during *EGE* exams (figure 10) and some of them described what they observed (figure 11):

---

36 *EGE* – *edinyi gosudarstvenny eksamen*, general final examinations in Russia, which also serve as university entrance examinations.
All first-year students have some experience in making gifts to their school teachers. The gifts range from the traditional presents of Russian academia like flowers and books to more questionable items like mobile phone and jewelry (figure 12):

Fifth-year students were not asked about their experiences in their secondary schools – only at universities. The majority of them made gifts in the form of flowers and confectionaries, while books and alcohol were mentioned rarely. No other gifts were noticed.

Gifts to faculty especially in the form of flowers, confectionaries, alcohol and books have a very long tradition in Russian academic culture. Since Russian universities have a different system and many full-time students are part of a peer group that has been studying together for at least four years and learning from a smaller (compared to the West) number of professors; there are more personal relationships among the students themselves and between the students and the faculty. These gifts might be certainly used for more pragmatic purposes (cf. definition of gifts suggested by Mauss 1924).

2.3 University: What is acceptable and what is not?

Both freshmen students and almost-graduates were presented with some common practices of academic dishonesty widely used at Russian universities. They were classified as ‘actions’ that respondents should rate from unacceptable to less acceptable to fully acceptable.

---

37 The value of such items might exceed 3,000 RUB. Items valued at 3,000 RUB or more are judged as a bribe according to Russian law.
Are the following actions acceptable in your opinion?

<table>
<thead>
<tr>
<th>Actions</th>
<th>absolute numbers</th>
<th>points³⁸</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>not acceptable</td>
<td>1st year</td>
</tr>
<tr>
<td>writing a paper by copying and pasting text from the internet</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>using paper ponies during exams</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>downloading term papers (or other papers) from internet</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>coping off during exams or tests</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>asking a professor for special</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

³⁸ To evaluate the importance of each practice, the respondents’ answers were weighted using the following scale: 0 points for ‘not acceptable’, 2 points for ‘less acceptable’ and 5 points for ‘acceptable’.
individual treatment (for example, easing requirements, loyal relation, discharge from exam) & 8 & 5 & 6 & 5 & 1 & 2 & 17 & 0.57 & 20 & 1.7  \\
\hline
giving a professor fraudulent or misleading excuses for poor academic performance (for example: absence from lecture, not meeting deadlines for written papers, failure to appear for an exam) & 10 & 9 & 8 & 1 & 1 & 2 & 21 & 0.7 & 12 & 1.0  \\
\hline
purchasing term papers (or other papers) from special agencies written by other students &  \\
\hline
\end{tabular}

Table 13: Cheating at universities: acceptable and less acceptable techniques

‘Using paper ponies during exams’ or ‘coping off during exams or tests’ seem to be business as usual for many respondents. ‘Writing a paper by coping and pasting text from the internet’ is the common way of writing academic papers. This was also confirmed in expert interviews: Most students learn this practice in school; at universities they just ‘improve’ upon it.

Photographs recently taken in Khabarovsk in front of one of the universities that participated in the survey confirm this indirectly. Picture 14 shows the way to the main university building. Picture 15 shows an announcement painted on the road; this announcement gives two local telephone numbers and offers written term papers and dissertations for purchase.

Many students accept and most likely practice the other method of academic dishonesty – coping off during exams or tests. Expert interviews show that, in most cases, the professors usually see traditional (e.g. paper ponies) as well as innovative (e.g. different functions of modern mobile phones) and exotic (e.g. inscribed nails, hands and legs) tools used during exams. Their reactions to this might differ: the
professors might acknowledge it or not. If they acknowledge the cheating, they might lower the student’s mark and/or ask additional questions. The reasons for not acknowledging vary: if a student worked very hard during a semester and attended all the lectures, this small ‘sin’ might be forgiven. Some professors might even judge handwritten ponies ‘positively’, arguing that, by summarizing the course materials, the students have critically reflected upon the topic.

2.4 Job search: What is acceptable and what is not?

The other part of the questionnaire was about acceptable tools for use in a job search. Some formal, informal and illegal practices for job searches were codified (figure 16) and students were asked if these practices are unacceptable, less acceptable or fully acceptable (table 17).

![Figure 16: Classification of job search tools provided in the survey](image)

**What tools do you think are acceptable in job searches?**

<table>
<thead>
<tr>
<th>Tools</th>
<th>not acceptable</th>
<th>sometimes acceptable</th>
<th>acceptable</th>
<th>1&lt;sup&gt;st&lt;/sup&gt; year</th>
<th>5&lt;sup&gt;th&lt;/sup&gt; year</th>
<th>absolute</th>
<th>average</th>
<th>absolute</th>
<th>average</th>
</tr>
</thead>
<tbody>
<tr>
<td>patronage of relatives and friends</td>
<td>2</td>
<td>2</td>
<td>15</td>
<td>6</td>
<td>10</td>
<td>3</td>
<td>80</td>
<td>2.67</td>
<td>27</td>
</tr>
<tr>
<td>contact recruiting agency</td>
<td>1</td>
<td>2</td>
<td>14</td>
<td>2</td>
<td>13</td>
<td>7</td>
<td>93</td>
<td>3.1</td>
<td>39</td>
</tr>
</tbody>
</table>
Informal tools to find a job seem to be as sufficient as formal ones. Particularly popular is the patronage of relatives and friends. Such common techniques as registering with a job center were rejected by a large number of respondents: 7 first-year and 2 fifth-year students. Rather than thinking of them as ‘unacceptable’, students would deem them ‘insufficient’ (cf. Denisova-Schmidt 2008). A few students consider neither recruiting agencies nor job ads to be acceptable tools for finding a job.

None of the students would ‘bring an expensive gift’ in order to get a job, but some of the students would consider the possibility to ‘awaken monetary interest of employer’ and are ready to ‘do a return service’.

2.5 Why do students go to universities?

Respondents were asked about their expectations for university study (table 18):

<table>
<thead>
<tr>
<th>Motives</th>
<th>1st year</th>
<th>5th year</th>
<th>1st year</th>
<th>5th year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>absolute</td>
<td>average</td>
<td>absolute</td>
<td>average</td>
</tr>
<tr>
<td>to get a good education</td>
<td>22</td>
<td>0.73</td>
<td>7</td>
<td>0.58</td>
</tr>
<tr>
<td>to get a good job in the future</td>
<td>28</td>
<td>0.93</td>
<td>6</td>
<td>0.5</td>
</tr>
<tr>
<td>to get a diploma</td>
<td>7</td>
<td>0.23</td>
<td>9</td>
<td>0.75</td>
</tr>
<tr>
<td>to satisfy parents</td>
<td>2</td>
<td>0.07</td>
<td>5</td>
<td>0.42</td>
</tr>
<tr>
<td>to be exempted from military service</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>everybody does it</td>
<td>4</td>
<td>0.13</td>
<td>6</td>
<td>0.5</td>
</tr>
</tbody>
</table>

In addition to the traditional motives for university studies, such as ‘to get a good education’ in order ‘to get a good job in the future’, students chose such options as ‘to get a diploma’, ‘to satisfy parents’
and ‘everybody does it’\textsuperscript{39}. This clearly underscores the tendency in Russian society to believe that only higher education can secure one’s future, and that secondary education and blue-collar professions have lost their attraction. This also implies that many young people go to university only to get a diploma, but not all of them are really ready for their university-level studies\textsuperscript{40}.

Diplomas might be also ‘obtained’ in a different way: The pictures below – picture 19 and picture 20 – show advertisements made near the same university. Both ads offer ready-made diploma certificates. It is interesting to note that typically, nobody is punished for this. Moreover, companies offering such services are usually legally registered companies offering other educational services.

![Picture 19: Announcement on the litter bin 1 and Picture 20: Announcement on the litter bin 2](Image)

There is still the hope that not every student will take advantage of such offers.

In any case, the large number of students choosing to attend university only for the purpose of getting a diploma leads to a decrease in the quality of education and to the dissatisfaction of their fellow students.

Students choosing to attend university expect (table 21):

<table>
<thead>
<tr>
<th>Expectations</th>
<th>1\textsuperscript{st} year</th>
<th>5\textsuperscript{th} year</th>
<th>1\textsuperscript{st} year</th>
<th>5\textsuperscript{th} year</th>
<th>1\textsuperscript{st} year</th>
<th>5\textsuperscript{th} year</th>
<th>1\textsuperscript{st} year</th>
<th>5\textsuperscript{th} year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>less important</td>
<td>rather important</td>
<td>very important</td>
<td>absolute</td>
<td>average</td>
<td>absolute</td>
<td>average</td>
<td></td>
</tr>
<tr>
<td>high professional level of the faculty</td>
<td>3</td>
<td>2</td>
<td>17</td>
<td>6</td>
<td>14</td>
<td>4</td>
<td>107</td>
<td>3.6</td>
</tr>
<tr>
<td></td>
<td>3.4</td>
<td>48</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>intellectual and personal</td>
<td>1</td>
<td>2</td>
<td>13</td>
<td>3</td>
<td>15</td>
<td>8</td>
<td>102</td>
<td>3.4</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\textsuperscript{39} Male students do not seem to use university studies as an exemption from military service. This problem is often solved in a different way.

\textsuperscript{40} According to current data 92% of school graduates planned to go to universities.
Table 21: Expectations for study at university

Half of the fifth-year students pointed out that their expectations were not satisfied during the course of their studies. They mentioned the following reasons:

- the low level and quality of education
- many useless, unnessesary classes
- the future profession does not fit

Figure 22: Reasons for dissatisfaction in university studies

2.6 Corruption

Students were also asked to evaluate the phenomenon of corruption directly (table 23):
How do you judge corruption?

<table>
<thead>
<tr>
<th>Judgments</th>
<th>1st year absolute</th>
<th>1st year average</th>
<th>5th year absolute</th>
<th>5th year average</th>
</tr>
</thead>
<tbody>
<tr>
<td>as evil</td>
<td>12</td>
<td>0.4</td>
<td>3</td>
<td>0.25</td>
</tr>
<tr>
<td>as a necessity</td>
<td>1</td>
<td>0.03</td>
<td>2</td>
<td>0.17</td>
</tr>
<tr>
<td>as an option for getting an income</td>
<td>10</td>
<td>0.33</td>
<td>1</td>
<td>0.08</td>
</tr>
<tr>
<td>as a crime</td>
<td>16</td>
<td>0.53</td>
<td>6</td>
<td>0.5</td>
</tr>
<tr>
<td>as a part of life</td>
<td>10</td>
<td>0.33</td>
<td>4</td>
<td>0.33</td>
</tr>
</tbody>
</table>

Table 23: Evaluation of corruption

Many of them estimate corruption to be a ‘crime’ and as ‘evil’. They also called it ‘a part of or life’, however.

Respondents were also asked whether or not it is possible to overcome corruption in Russia (figure 24)

**Is it possible to overcome corruption in Russia?**

![Figure 24: Overcoming corruption in Russia](image)

Their responses are impressive: the majority of them state that it is impossible. It is particularly distressing that young people are more pessimistic. The reasons students gave for this might be categorized as follows:
There are also some answers that cite reasons similar to those mentioned above, but seem to be more optimistic, explaining that overcoming corruption is impossible now, but might be possible in the future: ‘no, but I will believe in the better’.

Students thinking that corruption might be overcome in Russia suggest the following strategies (figure 26):

**Leadership**
- New government

**Best Practices**
- China
- Singapore

**Legislation**
- New reforms
3. CONCLUSION AND OUTLOOK

The main idea behind this pilot study was to test the hypothesis, research instruments and feasibility of the entire research project. There are some tendencies that should be taken into account and/or checked in the main study, however:

1. Many students perceive corruption mostly on the higher level and rarely recognize corrupt practices in their own activities, such as cronyism, nepotism, intellectual property fraud or gifts.

2. Younger students seem to be either more corrupt than their older colleagues or more ready to talk honestly about this phenomenon. Hence a random sampling might be not the most efficient tool for the main study. Corruption exists in Russia, but it seems to be a half-taboo issue. So, for example, Anna Buryukova, the press-secretary of Rosmolodezh (a state organization covering policy issues for young people) was fired after posting her confession on bribing a traffic policeman on Twitter.

3. Universities are not only considered to be a temple of knowledge, but also a place for having fun and an option for playing sports and for being involved in other extracurricular activities. Students tend to choose university study as the only option for securing their personal professional future and are not always happy about their future professions.

4. The idea of introducing EGE as reducing corruption in entrance exams seems just to ‘replace’ dishonesty in getting into universities. Students observe many violations during EGE; such violations are usually not reported. Moreover, experts argue that the introduction of EGE in many cases increases the number of students getting into universities after receiving awards in different kinds of olimpiada. The number of students with disabilities also increases in many cases. Both groups enter universities without EGE. However EGE increase the mobility of students; the higher number of students from small towns confirms this statement.

The pilot study shows that universities do not really ‘teach’ their students to be corrupt. Most students have already received their first experiences with corruption in the secondary schools. Universities just provide more options for dealing with different kinds of corruption and ‘refining’ some techniques. This partly confirms the theory of academic collusion suggested by Titaev (2012), which might be changed by a different attitude to higher education in Russian society. Higher education should not be virtually the only way to secure one’s professional future. The system of secondary-level education and the associated blue-collar professions should receive additional social prestige and acceptance.

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USABILITY EVALUATION OF AN EDUCATIONAL INSTITUTION'S STUDENT INTRANET USING COGNITIVE WALKTHROUGH

Andrew Laghos

Department of Multimedia and Graphic Arts, Cyprus University of Technology, Limassol, Cyprus

Abstract

Many higher education institutions are now offering some or all of their courses online. This enables them to reach a larger student population and by effectively using relevant technologies and the Internet, they are able to provide additional services to the students. Such an example is the Student Intranet where among other activities students may register for courses and view their grades online. In this paper a Usability Evaluation is carried out on such a case study for a Higher Education Institution in Cyprus. Based on this evaluation, strengths and weaknesses of the Intranet were identified allowing for suggestions for future redesigns.

Key words: Usability, Evaluation, Website, Intranet, Higher Education, Cyprus

1. INTRODUCTION

The Internet is currently a widely used medium for distance education since it is a 24/7 globally accessed medium. Email, bulletin boards, chatting, dialogues, newsgroups, research, and interactive conferencing are all easily available with the Internet. Many courses are now offered online through a website. WWW is very important because it enables the teacher to include content like course information, assignments, tests, and lecture notes, and allows communication with the students either by email or live conferencing.

E-Learning has many advantages including distance learning and self-pacing. Researchers have found that “achievement on various tests administered by course instructors tends to be higher for distant as opposed to traditional students” (Souder, 1993). In addition, “by using distance learning as an add-on to traditional classroom education or as a replacement for some courses, institutions can develop a richer overall learning environment available to a greater population base” (Distance Learning Benefits Organizations, individuals and society, 2002). Online materials also include journals, articles, databases, software libraries, past examination papers, FAQs and notice boards (Laghos, 2013).

The case study is based on the Student Intranet of Intercollege. Intercollege was founded in 1980 and is currently the largest college in Cyprus. Its students come from more than sixty different countries. Intercollege has three campuses: the main one is situated in the city of Nicosia, while the other two campuses are in Limassol and Larnaca. Intercollege offers undergraduate and graduate degrees, and the programs range from Travel & Tourism to Law and Pre-Medicine, while the Business and Computer programs are the most popular ones. The college's resources include fully equipped computer labs, engineering laboratories, a design lab, a TV production studio, a radio station, and a cinema. The college claims that 'an opinion survey conducted by an independent research firm showed Intercollege to be "the most reputable college in Cyprus"' (Intercollege Prospectus 2001-2002, pp.13). The Intercollege has assumed a leadership position among academic institutions of higher education in Cyprus in the use of computer and telecommunications technology. Applications of this technology
have been in the traditional MIS area (accounting, payroll, student records, etc.), as well as in academic research, marketing promotion of the institution and its products through the internet, student support through the intranet and, most recently embarking on distance-learning experimentation.

The Intercollege Student Intranet was released to the students in early 2002. Students are required to login using their unique Student ID and password. Once they have successfully logged in they may choose amongst seven options:

1. Messages - to see if they have any private messages
2. Admissions - to view or change their personal data
3. Academics - to view their personal academic path, campus course schedule, personal course schedule, personal exam schedule, personal grade report, and to download or print a variety of academic forms like credit by examination, independent study, change of major/degree and student withdrawal forms.
4. Finance - to review statements of accounts, installments, and semester fee analysis
5. Feedback - to give suggestions or make complaints about the college or intranet
6. WEB Mail - to send and receive email
7. Password - to change their password for logging in to the intranet.

3. METHODS AND RESULTS

The evaluation of Internet websites can take into account several criteria such as Accuracy, Authority, Objectivity, Currency, Coverage, Content & Browsability, and Usability (Smith, 2012; Cornell, 2009; Nielsen, 2000). This paper focuses on the latter, namely Usability. Usability can be defined as “The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use” (ISO 9241-11, 2012). More specifically a Cognitive Walkthrough is carried out on the Student Intranet of Intercollege.

Cognitive walkthrough is a usability evaluation approach which predicts how easy it is for people to learn to do particular tasks on computer-based systems. People generally learn to use new computer-based systems by exploration thus it is crucial to design systems for ease of learning (Blackmon, 2004).

Usability Evaluation and Cognitive Walkthrough are both Human-Computer Interaction (HCI) techniques, where HCI can be defined as “a discipline concerned with the design, evaluation and implementation of interactive computing systems for human use and with the study of major phenomena surrounding them” (Hewett, et al 2002).

3.1 Cognitive Walkthrough of Intranet (task: viewing semester grades)

Choosing to do the cognitive walkthrough of the task of viewing semester grades resulted after being informed by the college intranet administrators that the students’ main and most popular task when using the intranet is to view their grades.
3.2 Description of users:
The users are current students of the college. They may access the intranet from the computer laboratories of the college, their homes, or anywhere else they can connect to the internet from. The users are assumed to have basic computer skills, and be able to access webpages and surf the web. They are also assumed to be able to read and understand English. Their ages range from 17 years old and above.

3.3 Description of the system:
The system will allow the students to log onto the intranet and access personal and private information.

3.4 Description of the task:
The users must log into the intranet and view the grades they got for the courses they took that semester. A connection to the internet is already established and the browser window is open to a blank page when the users begin their task.

The following four questions are answered for each Action in the action list:

a) Is the goal clear at this stage?
b) Is the appropriate action obvious?
c) Is it clear that this action leads to the goal?
d) What problems are there in performing the action?

Action List:

System Display: Blank page
User Action: Type http://www.intranet.intercol.edu in the browser address bar
Answers:
a) Yes, the user wants to go to the Intercollege Intranet website.
b) Yes, it is clear that the user must type in the URL of the intranet.
c) Yes, because you reach a website by typing its URL in the browser address bar.
d) A spelling or syntax mistake will not load the correct page.

System Display: Intranet Welcome page
User Action: Click "Login" button
Answers:
a) Yes, the user knows he/she must login to the intranet.
b) Yes, it is obvious that he/she should click the "Login Button"
c) It is quite clear that clicking the "Login" button is the appropriate action to log in.
d) No apparent problems in performing the action.

System Display: Student Data Center page
User Action: Type their Student ID and Password, and click the "Enter" button
Answers:
a) Yes, because there are a couple of paragraphs explaining the goal to the users.
b) Yes, the user must provide his/her Student ID and Password.
c) It is clear that if the user’s input is valid, he/she will log in.
d) An incorrect ID/Password combination or syntax errors will take the user to an error page. Also, if the student’s fees have not been paid, even though the login data could be correct, the system will not allow log-in.

System Display: Personal Messages page
User Action: Click the "Academics" link from the top menu bar
Answers:
a) No, there is no message telling the student what the goal is at this stage.
b) Not very obvious, although students should suspect that their grades will be under Academics.
c) No, because there is nothing indicating this, until after the action is performed.
d) The page design is not very efficient and the options including the desired one (Academics), are only partially visible on some computer screens (Figure 2).

System Display: Academic Affairs Department Page
User Action: Click "Personal Grade Report" from the available options
Answers:
a) Yes, it will show the student's Personal Grade Report.
b) Yes, because the link is labeled accurately.
c) Yes, it is quite clear that clicking on "Personal Grade Report" will show the student his/her personal grade report.
d) No apparent problems in performing the action.

System Display: Personal Grade Report page (Figure 1)
User Action: Scroll down to view grades of most recent semester
Answers:
a) Yes, it is clear the goal is for user to see his/her personal grade report.
b) Yes, it is obvious that scrolling down is the appropriate action.
c) Yes, it is clear that the grades are in chronological order by semester, so scrolling down will display the latest semester's grades.
d) No apparent problems in performing this action.

![Figure 1 Personal Grade Report](image-url)

4. DISCUSSION

The cognitive walkthrough showed that the Intercollege Intranet is relatively easy to use. Intercollege authorities have also told us that there have been no security violations or breaches reported or suspected since the beginning of the intranet's existence. However, since the task of the cognitive walkthrough was only to view students' semester grades, and this is only one of the offerings of the intranet, interviews were undertaken with fifteen of students that use the intranet to get a better idea of the usefulness of the intranet.

Most of the students have noted the display problem where the links are not completely visible (Figure 2). Student NK, a fourth year student talked about the intranet not being updated soon enough. NK said, "Our semester grades were officially out, but took a few more days to be available on the intranet. This was a problem", he added, "because I have learnt to depend on the Intranet, and I needed the grades as soon as they were out for my postgraduate applications". Student ST, who is a second year student at Intercollege likes to have multiple browser windows open to view different documents at the same time. He told us, "I cannot open any of the pages as new windows, because when I right click on the links, the option is not available. I had to view each section separately, then go back and view the next and so on."
On the other hand, the students had a lot of positive things to say about the intranet. The majority of the students found the Personal Academic Path to be very useful. Student MC from Nicosia stated, "It was very helpful, because I could see which classes I still needed to take without always having to go to my advisor." Student PG said, "The search for classes was great because it had an option to take into account my personal academic path, and only displayed the available classes that I needed to take, and not the whole list of courses offered for the semester." Student CT, an Intercollege student from the UK said the following, "For me, the service hours were very useful. In England our working hours are not the same as in Cyprus, and for the first few weeks I would go to the college to use the library and it would be closed. This was a problem for me because I live relatively far from the college. But now I can log onto the intranet and see what the working hours are, and check whether or not it’s a national holiday of Cyprus that I don’t know about!" Student EA from Limassol told us that she liked the option to change her personal data from home. She said, "I recently got married during the summer, and now I’m living with my husband in a new home. From the Intranet I could change my last name and new address from my home, without all the hassle and time needed to go in and talk to the appropriate people and sign forms to change them."

Finally when asked what more they would want on the intranet, the students had a few ideas of their own. They asked for more information in the job offers, and buy and sell sections. Also, they thought that it would be a good idea to have some guides to some of the college’s regulations like how the grades are allocated and how the GPA grading scheme works.

The data gained from the interviews with the students was summarized in the Table 1.

<table>
<thead>
<tr>
<th>Problems</th>
<th>What they like</th>
<th>Suggestions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Links not fully displayed</td>
<td>Personal Academic Path</td>
<td>More job offers</td>
</tr>
<tr>
<td>No right click available</td>
<td>Searching for classes</td>
<td>More buy and sell offers</td>
</tr>
<tr>
<td>Updates are too slow</td>
<td>Useful information like service hours</td>
<td>Guides to some university regulations like how the GPA grading scheme works</td>
</tr>
<tr>
<td></td>
<td>Viewing grades online</td>
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<tr>
<td></td>
<td>Ability to change personal data from anywhere</td>
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</tr>
</tbody>
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Table 1 How the students see the intranet
5. CONCLUSIONS

In this paper the student intranet of a higher education institution of Cyprus was evaluated. The methods used was a Usability evaluation technique called Cognitive Walkthrough and personal interviews with students of the college. The results showed the Intranet provides several benefits to the students like viewing their grades online, but also identified areas which can be strengthened in future redesigns. The main advantages Intercollege gains from the Intranet are:

- Students who are physically thousands of miles away can be targeted.
- Students who like to proceed in the privacy of their own home and individual pace, while receiving personal feedback, can also be targeted.

Important points that Intercollege should not neglect are:

- Careful planning, a supportive infrastructure, user-friendly interactive systems, timely and updated education tools, and comprehensive and integrated array of information sources are all vital.
- There should be continuous improvement and updating of the content making it more current, more specific, and when necessary much more comprehensive and integrated through links to various information sources.

Finally, the growth and demise of the high tech industry during the last few years suggests that successful will be those institutions that enter the field early, understand the tools, adapt rapidly, know their users, are able to deliver on their promises, are ready to screen and seize opportunities as they arise, and have staying power. A lot of research, work and constant investment are necessary.

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RESPONSIBILITY AND SELF-MANAGEMENT THROUGH PHYSICAL-SPORT LEISURE.
GOALS OF AN EDUCATIONAL PROGRAM FOR THE PROMOTION OF PHYSICAL-SPORT ACTIVITY IN YOUNGSTERS

Mª Ángeles, Vademoros-San-Emeterio; Eva, Sanz-Arazuri; Ana, Ponce-de-León-Elizondo;
Universidad de La Rioja, Departamento de Ciencias de la Educación

Abstract

The conclusions of numerous studies recently carried out on physical sport practice as a healthy leisure experience, and defense of leisure within the convergence of formal, non-formal, and informal education have allowed to make novel, practical, and educational proposals and to convey them to contemporary youth in order to boost their experience and engagement in habitual and healthy physical-sport leisure. This research proposes an intervention program that stimulates, enhances, and improves children's and youngsters' physical-sport practice (PSP), making it a true experience of healthy leisure.

Key words: leisure, physical activity, sport, youngsters, intervention program.

1. INTRODUCCIÓN

Many investigators have analyzed behaviors, attitudes, and motivations of youngsters towards physical-sport practice (PSP) in their free time. Specifically, in recent years, some of these studies have focused on verifying that these practices are experiences of healthy leisure (Codina & Pestana, 2012; Cruz, Moreno, Pino & Martinez Santos, 2011; Gutin & Owens, 2012; McMurray, Harrell, Creighton, Wang, & Bangdiwala, 2008; Ponce de León, Sanz, Valdemoros, & Ramos, 2009; Ramos, Sanz, Ponce de León, & Valdemoros, 2009), whereas others have attempted to determine which factors induce young people to embrace a healthy PSP (García Moya, Moreno, Rivera, Ramos, & Jiménez Iglesias, 2012; Gómez López, Granero Gallegos, & Baena Extremera, 2010; Guinhouya, 2010; Jose, Blizzard, Dwyer, McKercher, & Venn, 2011; Leyk et al., 2012; Salvy, Bowker, Germeroth, & Barkley, 2012; Sanz, Ponce de León, & Valdemoros, 2012; Valdemoros, Sanz & Ponce de León, 2012).

The conclusions of all these studies, along with the conviction that "under optimal socio-environmental conditions, the experience of physical activity can promote physical, psychological, and social competences, attributes, and characteristics” (Weiss, 2011, p. 56)—as well as defending leisure within the convergence of formal, non-formal, and informal education (Ramos, Sanz, Valdemoros, & Ponce de León, 2010)—has driven the creation of novel, practical, and educational proposals that are conveyable to contemporary youth, in order to boost their experience and engagement in a habitual and healthy physical-sport leisure.

These proposals are operationalized by the creation of an intervention program that stimulates, enhances, and improves the PSP of children and youngsters, turning it into a true experience of healthy leisure.
This intervention program was designed adopting measures in accordance with the initiatives of the local government (Frisby, 2011), in this case, the Spanish government. For this purpose, we heeded the Organic Law of Education of 2006 and the Royal Decrees—which establish the minimum instruction of Primary and Secondary Education and High School—as well as the Integral Plan for Physical Activity and Sports (Consejo Superior de Deportes, 2010).

The goal of this article is to present in detail the Program to Promote Healthy Physical Sport Activity in adolescents of Compulsory Secondary Education (CSE), designed, deployed, and assessed with young Spaniards, underlining the importance of the juvenile physical-sports mediator as an essential agent to guarantee the success and effectiveness of the program to promote healthy leisure in young people. This mediator is the main hub of all the actions and, particularly, of Action 7, which presents a new model of juvenile organization, the so-called socio-sports clubs.

This program will be more efficacious if it is accepted by the Educational Project of the Center, by committing to leisure as a space of personal and social development, as well as to PSP as a healthy activity.

The pedagogical model for the development of healthy physical education presented by Haerens, Kirk, Cardon, and De Bourdeaudhuij (2011) is a reference for the present program for the promotion of health, which is implemented in formal and non-formal education settings, the details of which are presented below.

2. PROGRAM FOR THE PROMOTION OF A HEALTHY PSP IN LEISURE TIME

The program for the promotion of healthy physical sport activity entitled Here's to healthy physical-sport leisure. Are you ready? was designed and elaborated to enhance PSP that can ingrain a healthy lifestyle, using new work strategies,

✓ is an alternative to prevent poor habits,
✓ providing social skills to favor peaceful conflict resolution and healthy co-existence,
✓ strengthening essential values like commitment, effort, self-discipline, and responsibility, and
✓ providing the necessary tools for the adolescents to self-manage their free time through healthy leisure experiences.

The program was created to be implemented mainly in the leisure time of Spanish adolescents and youths of CSE, involving the family, the school, the teachers, the physical-sports technicians, and the university.

It includes eight actions, some of them with diverse activities (Figure 1). All of them should be driven and coordinated by the physical-sports mediator.
1st action: Training course for juvenile physical-sports mediators. Nowadays, training the physical-sports technicians should be reoriented with a new conception and educational goal, introducing the figure of the physical-sports mediator. This new technician, adapted to the new social needs, will attempt to consolidate juvenile PSP through comprehension and appraisal of youngsters' needs, as noted in the results of the research of Zarrett, Skiles, Wilson, and McClintock (2012).

The physical-sport mediator is conceived as a facilitator who helps youngsters to self-discover what kind of physical-sport leisure they want to perform, and who enhances adolescents' self-management. Thus, their main goal should be: to develop youths' self-confidence so they will be capable of making decisions and accepting responsibilities and will achieve the expectations they posed at the beginning of the season. Their main interest is to offer individualized support so they can orient, transmit, and teach youngsters a new model of healthy leisure. Their principal focus is not on the technical or tactical aspects of sport modalities, but on the interests, desires, needs, aspirations, and expectations of people they attend to.

Physical-sports mediators should attempt to provide youngsters with the tools that will allow them to analyze themselves from within, so they will discover the expectations, skills, and competences, that they already possess, and which they should now turn into action to improve their experience of physical-sport leisure. In order to perform their tasks appropriately, they should possess a series of values, among which are notable: respect for others' ideas, humility, honesty, comprehension, solidarity, patience, and tolerance.

With this first action, we aim to provide the technicians with all these competences, so they can become valuable physical-sports mediators. Once the physical-sports mediators are well trained and full of enthusiasm and determination to embark on this project, we are in a position to implement the rest of the actions, where the mediator plays an essential role in guiding each one of them.

2nd Action: Artistic contest for Secondary students. Targeting all CSE students, physically active or inactive.
The mediator is the revitalizer of this contest so it will have the desired effects. The mediator is in charge of transmitting the information of this in the school centers, of motivating and promoting the youngsters' participation, of handing out the material and subsequently collecting the works.

Artistic contest for adolescents:

PHYSICAL-SPORT ACTIVITY AND HEALTH

The contest is divided into the following modalities:

- PUBLICITY POSTER
- DRAWING
- PUBLICITY SPOTS
- VIDEOS

INDIVIDUAL 1st & 2nd CSE

COLLECTIVE 3rd & 4th CSE

Figure 2. Goal and modalities of the contest.

This action pursues:

- Promoting the autonomous discovery about the healthy benefits of PSP in youngsters, through the development of a reflexive and creative work of art.
- Attracting and sensitizing adolescents to the need to be physically active to achieve a healthy lifestyle.
- Elaborating a coordinated, original, and creative work of health-related physical activity.

3rd Action: Informative talks with specialists of physical activity, sports, and health. Following the recommendations of Zieff (2011) of offering interdisciplinary talks that raise the population's awareness about healthy physical activity, a cycle of three informal talks is offered in the school centers, aimed at CSE students. The mediator is in charge of inviting the specialist speakers according to the needs and interests of the adolescents.
4th action: Extra-curricular PSP meets. Both the 4th and the 6th actions are based on the conclusions of the research of Salvy et al. (2012), who indicate that the peer context social must be taken into account as a factor that has an impact on youngsters’ physical activity or inactivity.

Specifically, the 4th action, coordinated, supervised, and guided by the mediator, offers the adolescents a broad and novel array of PSP they can integrate into their free time. The focus of attention is on how to orient and guide these activities. In the development of these meets, qualification for PSP is relegated to second place in favor of enriching the adolescent as a person. The following blocks of activities are proposed (Figure 4).

Figure 4. Proposed blocks for the PSP meets.
These meets are periodical:

- Alternative and cooperative activities are offered three times a week, outside of school hours, and the activity is changed every two months.
- The physical activity festivals are held once a month, on weekends, in the sports facilities available at the school center. In addition, every month, a physical-sport tournament is held of the modality that had been practiced.
- The sports activities are developed in two sessions during the week, dedicating three or four weeks to each modality offered.
- The outdoor excursions are held on weekends, seeking as much as possible to include a variety of practice.

5th Action: Didactic unit. Considering physical education as a feasible setting to promote motor skills, physical activity, and healthy habits within the positive development of youth (Weiss, 2011), the goal of this action is to implement the didactic unit, under the direction of the Physical Education teacher Healthy PSP in the diverse CSE grades. For example, it uses the competences, goals, sessions, and assessment criteria of a planned unit for 1st grade of CSE.

The acquisition of the following competences is underlined:

- Performing adequately with autonomy and personal initiative, aimed at the improvement and preservation of one's own health, of other people, and of all living beings.
- Adopting an attitude of a healthy physical and mental life in a natural and social environment that is also healthy, starting out with knowledge of the human body, nature, and men and women's interaction with nature, rationally discussing the consequences of different ways of living.
- Displaying attitudes of responsibility and respect for others and for oneself, starting out with comprehension and decisions concerning the physical world and the changes that human activity produces in the environment, health, and quality of life of people.
- Being capable of self-organizing one's free time with healthy PSP.

The following goals are pursued:

- To know the traits that define a healthy physical activity and the beneficial effects it has on individual and collective health.
- To value habitual and systematic practice of physical activities as a means of improving one's health conditions and quality of life.
- To know and consolidate healthy habits of PSP as a means of reducing everyday tensions, enjoying and developing oneself and, ultimately, so it will contribute to personal satisfaction and better quality of life.
- To adopt a critical attitude of how one treats one's body, and of physical activity and sports in the social context.

The following sessions are dealt with:

- Session 1. Pharaoh’s Empire: posture and gesture.
• Session 2. Oriental philosophy. Learning to breathe.
• Session 3. The warrior's rest. Teamwork and recovery from fatigue.
• Sessions 4 and 5. Rain dance. Dance and let dance.
• Session 6. Eat and recycle.

6th Action: PSP during school recess. Here, we stress dedicating recess time to diverse PSPs, both competitive and noncompetitive, with the students' participation in their organization and development, attempting to sensitize them and attract them to a physical-sport leisure that can become ingrained as a part of their daily routine.

Two bimonthly plans are proposed (Figure 5).

![Figure 5. Blocks of activities for recess.](image)

Each one of these blocks is made up of activities that are interesting to adolescents of all four grades of CSE.
In this action, the mediators are again very important, as they should promote a different way of experiencing juvenile leisure than will help youngsters to acquire a healthy physical sport habit. Guided by this work philosophy, mediators should encourage the youngsters to engage more actively in their own PSP, oriented towards health, so they will achieve collective learnings that will provide them with healthy physical-sport competence.

7th Action. Socio-sports clubs. With this action, we attempt to introduce a new model of juvenile physical-sport organization. This is to promote youth groups with the aim of sensitizing and promoting healthy PSP, organized, oriented, and developed by the adolescents themselves. It is based on the theory of self-determination, which states that when individuals discover inherently interesting, meaningful, and pleasant activities, or when such activities are personally relevant, these individuals are more apt to engage in such activities (Haerens, Kirk, Cardon, & De Bourdeaudhuïj, 2011). Thus, this action is aimed at the creation, organization, and promotion of the so-called “socio-sports clubs”. The purpose of this activity is to offer adolescents a place and time, combined with the support and orientation of a physical-sports mediator who will facilitate self-organization and self-management of their PSP, depending on their personal and social desires, preferences, and needs, in order for them to internalize these experiences, thereby establishing lifelong healthy physical-sport leisure.

What are the goals?

- To promote a different work method to promote the acquisition of a healthy habit of PSP.
- To involve adolescents more actively in their own health-oriented learnings.
- To achieve collective learnings among adolescents to provide them with healthy physical-sport competence.

Juvenile physical-sports mediators are in charge of coordinating the work of various clubs, promoting creativity in the organization of leisure and collective work for the adolescents' physical, psychological, and social health, as well as their acceptance of responsibilities.
Extracurricular meetings among the adolescents will be held periodically (at least 3 per week) in the facilities of the schools or the sports centers.

In the last week of the school course, with the support of a qualified juvenile technical mediator, the solutions achieved by the clubs will be shared in order to verify how the needs (actions) of a healthy PSP were met to make it will long-lasting.

8th Action: Annual rewards for healthy physical-sport constancy. This action is based on the conclusions of the study of Leyk et al. (2012), who recommend offering programs based on incentives to promote healthy PSP. It aims to stimulate adolescents' assiduity and constancy in healthy PSP, as well as their creativity and the novelty of the socio-sports club projects with rewards and prizes related to the physical-sport world and health, focusing on the quality and quantity of individual or club PSP.

In order to be able to reward the best activities proposed by the socio-sports clubs, each year, at the end of May, the clubs that wish to go for the prize should present a report of their activities. The mediators orient the club members in the elaboration of their reports.

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EARLY CHILDHOOD EDUCATION AND CARE IN GERMANY: FOCUS ON CHILDREN WITH A BACKGROUND OF MIGRATION (IN A BAVARIAN CONTEXT)

Rozalina P. Engels-Kritidis
Faculty of Primary and Pre-School Education, Sofia University “St. Kliment Ohridski”, bul. Shipchenski Prohod 69A, Sofia 1574, Bulgaria

Abstract
This paper outlines early childhood education and care in Germany. It presents a historical overview of the developments in the field, from Fröbel’s kindergärten to the contemporary institutions. The two main principles in the country’s preschool education and care policy-making process, federalism and subsidiarity, are described. The manifested need for change in the preschool education and care sector is presented through several research projects undertaken at the end of 20th and at the beginning of the 21st century. The key policies and concepts regarding early childhood care, education and upbringing are presented, along with the different types of settings, staff, levels of provision, and enrolment rates. More specifically, current facts and figures regarding the pre-school education and care in the city of Munich are reviewed. The paper also outlines the screening assessment of children’s German language competence, which is performed prior to school entry in Germany; the specific tests done in Bavaria are presented. In this regard, the paper describes the available support for children from families with a background of migration, who are experiencing difficulty with the language, presenting the initiatives of the Intercultural Education and Language Section in the Department of Education and Sport of the City of Munich.

Key words: early childhood education and care; Germany; kindergarten; federalism and subsidiarity; Munich; children with a background of migration.

1. HISTORICAL OVERVIEW: FROM FRÖBEL’S KINDERGÄRTEN TO THE CONTEMPORARY STATE OF EARLY CHILDHOOD EDUCATION AND CARE IN GERMANY

There is a long tradition of early childhood education and care in Germany. As in most countries across Europe, the first centres for young children emerged during the onset of industrialisation as purely custodial establishments (Oberhuemer, Schreyer & Neuman, 2010). The main function of such institutions was to protect children from neglect while their parents, employed as industrial workers, worked away from home all day. Those establishments were little concerned with fostering the educational development of the children in their care.

The institutions inspired by Friedrich Fröbel (1782-1852) from 1840 onwards, for which he introduced the term Kindergärten, differed in every respect from the child-care institutions known until then. Fröbel supported the point of view that looking after infants should be done by providing care and supervision that was primarily oriented towards pedagogical concepts. Kindergärten were intended to complement children's upbringing in the family and to foster the child's mental, emotional, creative and social development while serving as an establishment of care, play and occupation for small children (Lohmar & Eckhardt, 2010).
In 1848, in the context of a democracy movement that culminated in a revolutionary parliament, Fröbel proposed the integration of the Kindergärten into the general education system, believing it to be a prerequisite for the democratisation of society. However, the idea did not gain enough political and public support to be implemented, which has been the case ever since, up to the present day. In post-war West Germany and in today’s post-1990 Federal Republic of Germany, all institutional forms of child care and education prior to compulsory schooling have been positioned within the child and youth welfare system (Oberhuemer, 2012).

During the 19th century, numerous voluntary (especially church-run) and public-sector (mainly local authority-run) Kindergärten based on Fröbel’s educational approach were set up in Germany. The development of Kindergärten continued until 1933 when, under the National Socialist government, the voluntary welfare associations which maintained many Kindergärten were taken over by the National Socialist welfare body, the Volkswirtschaft. Since many women were driven out of the labour market in the Drittes Reich, this era saw the closure of many Kindergärten; however, the Kindergärten system was once more expanded later on, when demand for the female workforce picked up again, especially in the armaments industry (Lohmar & Eckhardt, 2010).

After the end of the Second World War, different pre-school education systems developed in the now-divided Germany; in the Federal Republic of Germany (FRG), pre-school education was made part of the child and youth welfare sector, while in the German Democratic Republic (GDR), institutions for children aged 3-6 were incorporated into the education system. The two separate nations developed distinctly differing systems of early education and care; it was related to the fact that, whereas in the eastern, socialist GDR, the participation of women in the labour force was a declared political goal underpinned by the provision of publicly-funded, full-day kindergartens (as part of the education sector) and day nurseries (within the health sector), in the western FRG, women were encouraged to care for their young children at home and provision levels were very low (Oberhuemer, 2012). In FRG, Kindergärten was a paid service (mainly according to income), while in GDR all children from three to six years of age were guaranteed a place, their parents only needing to pay a contribution towards the midday meal; all other costs for the care of the children were covered by the state budget (Lohmar & Eckhardt, 2010).

Since the German reunification on 3rd October 1990, the Federal Republic of Germany consists of 16 Länder – 10 in the former Western part, 5 in the former Eastern part and the city state of Berlin (including former East and West Berlin); 15 million people live in the eastern Länder out of a total population of over 80 million. The pre-school educational establishments of the five Länder in eastern Germany also came under the child and youth welfare sector and nowadays they are to a great extent comparable with those of the Länder in western Germany. It is noteworthy that the Länder in eastern Germany continue to have sufficient provision of full-day places for all children between three and six years of age (Lohmar & Eckhardt, 2010) and a high proportion of places for children under the age of three.

Therefore, every time we speak about the German preschool education and care system, we should have in mind that, on the one hand, the current situation is strongly affected by the previous division into two different countries with different types of preschool education and care systems and, on the other hand, each of the 16 Länder has its own legislation and regulations.
2. FEDERALISM AND SUBSIDIARITY: TWO MAIN PRINCIPLES IN THE POLICY-MAKING PROCESS CONCERNING PRESCHOOL EDUCATION AND CARE IN GERMANY

Two fundamental political principles underlie the organisation, funding and regulation of early childhood policy in Germany, namely federalism and subsidiarity. Federalism characterises Germany as a federal State with three levels of government: federal; the Länder (16 states / city-states); and the municipalities (around 13 000) (OECD, 2006, p. 334).

Subsidiarity is an organizational principle stating that a matter ought to be handled by the smallest, lowest, or least centralized authority capable of addressing that matter effectively. According to this principle, a central authority should have a subsidiary function, performing only those tasks which cannot be performed effectively at a more immediate or local level. In political theory, subsidiarity is often viewed as a principle entailed by the idea of federalism.

Federalism and subsidiarity are therefore key political principles underpinning the organisation, funding and regulation of early childhood services in Germany. With regard to preschool education and care, the 16 regional governments are responsible for developing childcare laws in alignment with the main policies of the federal legislation. These are prepared by the ministry with overall responsibility for youth affairs (Oberste Landesjugendbehörde). At the local level, the municipalities are obliged to guarantee service provision and secure funding for kindergartens (for children aged 3-6 years), day nurseries (for infants aged 0-3 years) and school-age child care (for 6-14 year-olds) and other age-combined forms of provision. However, public administrations do not directly provide the majority of these services (at least in the western Länder); instead, they co-operate with a variety of non-profit service agencies. In this respect, church and voluntary organisations play a pivotal role. According to Oberhuemer (2012), “around two-thirds of centre-based early education/care provisions across the country are run by these so-called “free providers” (Freie Träger der Jugendhilfe). In other words, responsibility is shared between the federal government, the 16 regional governments and local government bodies in partnership with a wide range of non-profit agencies.

The main private providers are churches – Catholic or Protestant – making Germany unique, at least within Europe, in the major role that religious bodies play in the provision of early-childhood education and care services. In the eastern Bundesländer (5 former GDR areas), subsidiarity does not apply to the same extent (OECD, 2006, p. 334). The traditional dominance of the non-governmental sector has not only been maintained but has been increasing. A recent independent survey (Schreyer, 2009, as referenced in Oberhuemer, 2012) of the providers of centre-based services for children in 13 Länder registered an increase of almost 42% over the last seven years. According to this study, the decrease in numbers of public, municipality-run centres is particularly marked in the eastern part of the country, whereas in the western Länder the absolute number of church-affiliated centres has decreased. However, the proportion of non-church free providers has increased significantly in both parts of the country. In the western Länder the voluntary sector dominates, providing 66% of all child care institutions. In the eastern Länder the picture is just the opposite. Here, over 70% of child care centres are located in the public sector (Oberhuemer, 2004, p. 10).

There were several key moments, such as publications and research, which showed the need for changes in the German pre-school education and care. One of them was the first empirical study focusing explicitly on pedagogical quality, conducted under the title ‘How good are our kindergartens?’ (Tietze, et al., 1998). This study examined 103 early childhood institutions caring for 422 children aged 3-6 years in three regions (two western and one eastern). The findings revealed considerable differences between full-day and part-day kindergarten groups, and also between practices in the eastern and western parts of the country. For example, free play and small-group activities occurred more often in the western region kindergartens, while the eastern region groups focused more on planned and whole-group activities (Tietze, et al., 1998, p. 259, as referenced by Oberhuemer, 2012). The overall conclusion of the study was that – according to the evaluation measures used - German kindergartens can be described as only slightly better than mediocre, with only one-third considered of good quality and one-third of poor quality. These findings were a revelation for the field and they precipitated considerable and controversial debate on what constitutes a ‘good’ kindergarten and what kind of assessment tools are appropriate for analysing the complexities of early childhood settings.

According to Oberhuemer (2004), another dispute came from looking at the field from a completely different point of view; that of Donata Elschenbroich, who documented a panoramic view of the ideas of people of all ages across the population about what children should have had the chance to experience and encounter during the first six or seven years of life (Elschenbroich, 2001). Elschenbroich criticizes the early childhood system in Germany for failing to offer the children sufficiently stimulating and curiosity-triggering learning experiences. Her book was very popular and managed to capture the attention of an audience far beyond that of the early childhood community; this was a clear indication of a new and growing interest by the general public in what children are experiencing or not experiencing during the early years of life.

The findings from the first PISA study (the OECD Programme for International Student Assessment of 15-year-olds) published at the end of 2001 were – according to Oberhuemer (2004, p.15) - “a change catalyst”. Germany found itself in the lower third of ranking positions of 32 countries in all three basic skills assessed: reading competence, mathematical literacy and scientific literacy. Even more disturbing for the educational establishment was the connection between social background and level of achievement; a large number of children from socially disadvantaged or migrant family backgrounds were found to be in the ‘at risk’ group with the lowest level of skill competence. The school system clearly had not been able to compensate for differences in social standing. Only one day after the PISA findings had been published, a public statement was made by the 16 Ministers of Education, and even though the kindergartens are not part of the education system, two of the seven conclusions drawn from the study directly targeted the early-years settings. The decisions concerned measures to be taken in order to improve language and literacy competence in the early years, as well as to improve the link between kindergarten and school, with the aim of earlier entry into public schooling. One of the key recommendations was centred on raising the status of initial training and reforming in-service training.
4. POLICIES AND CONCEPTS OF EARLY CHILDHOOD CARE, EDUCATION AND UPBRINGING

One of the results from “the PISA shock” was a decision by all 16 Länder (federal states) to introduce curricular frameworks for the early childhood sector. Additionally, in 2004, a historically unique step was taken when the 16 Ministers for Youth Affairs and the 16 Ministers of Education agreed to adopt a Common Framework for Early Education. Although this Common Framework is not mandatory, it represents an unprecedented step in a context (in the western federal states) of traditionally low-key curriculum regulation. Basic principles include a holistic approach towards learning, including involvement of children in decision-making processes, intercultural pedagogy, gender-sensitive practices, specific support for ‘at-risk’ children and children with (potential) disabilities, as well as support for gifted children. Through their informal learning environments, early childhood centres should offer a supportive framework for developing experiential learning and for promoting a probing, enquiring, questioning and challenging disposition towards learning (Oberhuemer, 2012).

A second round of policy initiatives focused on enhancing language and literacy skills, particularly of children for whom German is a second language. Again, totally new measures were introduced, such as screening tests and practitioner-oriented assessment instruments and, in the case of Bavaria, a comprehensive network of early childhood language coordinators (Oberhuemer, 2012).

The third major area of policy attention has been directed towards provision for children from birth to the age of 3. Recent legislation (2009) has granted one- and two-year old children a legal entitlement to a place in early childhood education and care institutions as of 2013. There has been a rapid expansion of available places both in centre-based settings and family day care, raising questions about the quality of that provision.

Oberhuemer (2004) has defined the identity of preschool education and care in Germany as having a strong social and community purpose and maintains that the dominant educational philosophy of kindergartens in the western regions has never been one of exclusively preparing children for school, or of focusing on academic skills. It has been a wider understanding, one with a strong belief in the importance of social learning skills, and one which in recent years has seen kindergartens, particularly in some federal states where this move is policy-driven (e.g. Northrhine-Westfalia), developing more and more into community resource centres, into neighbourhood centres for children and families.

According to the situation in Bavaria, since 2005 this Land or federal state has a new law called “Bayerisches Kinderbildungs- und -betreuungsgesetz” (in English “Bavarian Law on Children’s Education and Care”), which defines, among other things, the following general framework conditions: needs-oriented planning for which the responsibility has been placed on the local authorities; qualification of pedagogic staff stating that only trained, state-approved educators can work with children (staff with lower qualifications can work with children, but not in a post of responsibility, e.g. as a group leader or centre leader); continuing professional development for staff based on scientific evidence; funding per child, not per teacher or class, and each subsidised kindergarten has to have a centre-based written statement of aims and a stated strategy of quality management; defining goals of education having in mind that each child is entitled to the best chances for education and development; paying attention to cooperation with parents and primary schools. As a result of this new law, since 2005 there has been an official early childhood education curriculum issued by the Bavarian Ministry of Social Affairs and the State Institute of Early Childhood Research, which the early childhood centres are obliged to follow, including the main principles and content in their own centre-specific programme. “Der Bayerische Bildungs- und Erziehungplan für Kinder in Tageseinrichtungen bis zur Einschulung” (The Bavarian new foundation frame / curriculum for early
childhood education) has the following main goals: to support the development of basic competences (personal, social and emotional competences, competences in learning and resilience); to “playfully” help children to gain knowledge in a broad spectrum of learning areas (e.g. mathematics, language, natural sciences, nature protection, arts, aesthetic, culture and music); to share the responsibility for education with parents; to cooperate with the community and to use community resources; to support transitions, e.g. to primary school, to after school care institutions; to support children’s participation in everyday decisions (democracy principle).

5. TYPES OF SETTINGS, LEVELS OF PROVISION AND ENROLMENT RATES

When discussing early-years education and care in Germany, it is important to bear in mind the rate of female participation in Germany’s workforce; according to OECD (2006), it is 66.1% for women aged 15-64, of whom 37% work part-time; 42.3% of mothers with a child under 6 are employed, accounting for 28.4% of all part-time employment; 31.2% of mothers with a child under 3 were employed in 2004. Maternity leave in Germany is granted for a period of 6 weeks before birth and 8 weeks after, compensated at average annual earnings. Parents then have the option of a period of special parental leave (Elternzeit) lasting until 3 years after the birth of their child (Blum & Erler, 2011). Parents taking this leave may work up to 30 hours per week, with a reduction to their child-rearing benefit (OECD, 2006).

Centre-based services comprise three main types: Kinderkrippen, which are centre-based crèche services for children under 3 years; Kindergärten or centres for children aged 3-6 years; and Hort – services, which provide out-of-school provision for children from entry to school up to 10 or 12 years. However, an increasing number of settings cater for children of mixed ages - 0 to 6, or from 3 to 10 or 3 to 12.

Family day care services, normally performed by day care workers called Tagesmütter, Tagesväter or Tagespflegepersonen in their own homes, are also available.

Krippen and Kindergärten services in former Eastern Germany are run as full-day, mixed-age services. In the old federal Länder one quarter of kindergartens are now full-day, and there is an emergence of the Kindertagesstätte, that is,-kindergartens taking in mixed age children (below 3 years), and providing a range of services, including Hort and more intensive parent outreach. In the new Länder, the links between Hort and primary schools are now weaker, as they currently operate under separate ministries, although these services were under one ministry (education) prior to unification (OECD, 2006).

Before unification of the two parts of Germany, kindergarten places in the west addressed 70% of the 3- to 6-year-old population, whereas there was almost complete full-time coverage in the east. For children under 3, the west had places for less than 5% of the child population, while there was 56% coverage in the east. A similar pattern was evident in school-age child care.

In 2008, 313 114 children under the age of 3 were enrolled in some form of early childhood provision (including family day care), with two-thirds (66%) enrolled in services run by private providers using state subsidies. The same applies to the over 2.3 million children aged 3 to 7; nearly two thirds (64%) were in services run by non-governmental bodies. The overall rate of enrolment for the under-threes was 15.3% in 2008, and 81.4% for children of kindergarten age (Statistisches Bundesamt, 2009, as referenced by Oberhuemer, Schreyer & Neuman, 2010).
Kindergartens are traditionally centre-based settings admitting children from age 3 up to school entry, which means until the age of 6. Kindergarten attendance is voluntary. In most cases, parents pay an income-related fee, although a number of Länder (e.g. Rhineland Palatinate, Saarland) have recently introduced no-fee enrolment for the year immediately preceding school entry, and Rhineland-Palatinate has now extended this to include all children from the age of two onwards. Kindergarten providers are mostly members of non-governmental Welfare Associations or Municipal Associations. Only 1.4% of centre-based settings (including kindergartens) are private for-profit (Statistisches Bundesamt, 2009, as referenced by Oberhuemer, Schreyer & Neuman, 2010).

The required group size and staff/child ratios vary from region to region. In 2006, group sizes for full-day mixed-age groups with 3- to 6-year olds ranged from 12 (Berlin) to 24 (Bavaria). In groups with under-threes, group size varied from 8 in Bremen to 13 in Lower Saxony (Bock-Famulla, 2008 as referenced by Oberhuemer, Schreyer & Neuman, 2010). 29% of 3- to 6-year olds attending a kindergarten in the western Länder have an immigrant background, whereas this is the case for only 6% in the eastern part of the country (Autorenguppe Bildungsberichterstattung, 2008, as referenced by Oberhuemer, Schreyer & Neuman, 2010). Kindergarten groups are generally staffed by a core practitioner (mostly Erzieherinnen) and a qualified auxiliary (mostly Kinderpflegerinnen). Staff/child ratios vary significantly across the country. A calculation for 2006 based on estimated full-day places and full-time staff showed differences ranging from 1:8.8 in Rhineland Palatinate to 1:13.6 in Mecklenburg-Vorpommern (Bock-Famulla, 2008, as referenced by Oberhuemer, Schreyer & Neuman, 2010).

In Bavaria, the maximum number of children in a kindergarten group is limited to 25. This number can be reduced if the group includes children with special educational needs; according to the regulation in Bavaria, one disadvantaged child is equivalent to 4.5 children without special needs. This means that if a group includes two children with special educational needs, the maximum number will be reduced by 9 children. Similarly, there is a ratio for children with a background of migration – one child with a background of migration is equivalent to 1.3 children of native German origin. However, if in a group includes children with an immigrant background, the maximum number of children does not change; instead, more staff can be assigned. Therefore, including children with special needs means a reduction in the total number of children in the group, whereas groups with a certain number of immigrant children can apply for additional staff. In Bavaria, one educator is required per maximum of 11 children in the kindergarten (BayKiBiG, 2012).

Infant-toddler centres (Kinderkrippen), or nurseries, admit children from a few months old up to the age of 3. Differences in levels of provision between the western and eastern parts of Germany are particularly distinct in this section of early childhood services. Whereas around 40% of under-threes in the eastern Länder were enrolled in an infant-toddler centre in 2007, this was the case for only 10% in the western part of the country (Autorenguppe Bildungsberichterstattung, 2008, as referenced by Oberhuemer, Schreyer & Neuman, 2010). In recent years a growing number of kindergartens have started admitting 2-year olds. Staff/child ratios over a five- to seven-hour day vary from region to region, from 1:3.6 to 1:10 (Viernickel & Schwarz, 2009, as referenced by Oberhuemer, Schreyer & Neuman, 2010). Even though most of the official curricular guidelines are conceptualised for the age-range 0 to 6 years – as is the 2004 Common Framework for Early Education – in reality, most of the goals and recommendations are formulated predominantly for the older kindergarten children in mind, including the transition to school. This is one of the reasons why a number of current research and development projects are focusing specifically on working with under-threes.
In Bavaria, the maximum number of children in one nursery group (age 0-3) is 12 children. The calculation about how much staff is needed is made according to specific criteria and it depends on the number of the children in the nursery, the hours which children spend in the nursery, and the hours which the staff work there. With regard to the number of staff in Bavaria, in nursery groups one person is required per four to six children.

As a result of the government target of providing places either in centre-based settings or family day care for 35% of under-threes by 2013, according to the most recent amendment is the 2009 Children’s Funding Act (Kinderförderungsgesetz -KiFöG), as of August 2013 every parent in Bavaria will have the right to a place in a day care setting for each of his children aged from 1 to 3 (Oberhuemer, 2012). In this regard, a lot of new buildings for kindergartens have been built recently by private agencies. This act/law is a big responsibility for the City of Munich (“Landeshauptstadt München”) because, if they do not provide places for everyone who states a need, parents could take legal action against the City of Munich, or respectively – the Bavarian state.

According to the official press release of the Department for Education and Sport of the City of Munich (published in September 2011), an investment of 100 million euros is planned for building new nurseries before 1st August 2013, which is when the law defining a place for every child at the age 1 to 3 who needs a place will come in effect. According to Rauschenbach (2012: 11), this ‘need’ is currently estimated at around 37% in the West and 51% in the East. This means that in the West another 260,000 nursery places need to be made available between March 2011 and August 2013 if the interim goal is to be reached.

The concept of out-of-school provision for school-age children (Schulergänzende Bildungs- und Betreuungsangebote) is well-established in Germany because of the long tradition of half-day schooling during the primary years. However, the level of provision has been traditionally low in the western part of Germany, and it is only recently that this is changing, along with the growing range of services. These are generally located not within the education sector but within the child and youth welfare sector. Similarly, far more school children are enrolled in out-of-school provision in the eastern part of Germany than in the western Länder. Also, services are used less frequently as the children grow older (Oberhuemer, Schreyer & Neuman, 2010).

6. STAFF IN THE EARLY-YEARS INSTITUTIONS IN GERMANY

In Germany, “teacher” refers to a person who has the required qualification to teach at school, from the first grade and above (the school from 1st to 4th grade is called Grundschule in German), it does not refer to people working with pre-school age children. According to Oberhuemer, Schreyer & Neuman (2010), three different courses of professional studies are currently recognised officially as requirements for working in children’s services. The first one is a mostly three-year course of study at a post-secondary vocational college specialising in social pedagogy (Fachschule/Fachakademie), leading to the qualification of state-registered educator (Erzieherin). In reality, they attend the vocational school for 5 years (the first 2 of which now conclude with a qualification comparable with that of a Kinderpflegerin) after the 10th grade in order to receive this qualification. The tuition ends with a final theoretical-practical exam. Enrolment in such a school does not require the certificate Abitur (exams taken at the end of 12th grade of the school called Gymnasium), which is the requirement for attending university; applicants in the post-secondary school only need the Mittlere Reife (the exam taken at the end of the 10th class in school called Gesamtschule or Mittelschule). The second recognized qualification is a mostly two-year course of study at upper secondary vocational
level leading to the qualification of *Kinderpflegerin* (child care worker) – supplementary / auxiliary worker in early-years settings. The third one is a mostly three-and-a-half year or four-year course at higher education level leading to the qualification of social pedagogue/social worker. *Sozialpädagogen* and *Sozialpädagoginnen* (literally, social pedagogues) are most likely to be found working as heads of centres, especially larger ones, but can also take positions working with children with disabilities. A higher percentage of this group are male compared with the state-registered educators (OECD, 2006).

In general, social pedagogy/social work study routes are provided by professional higher education institutions – *(Fach)Hochschulen*, now known as universities of applied science – or vocational academies (*Berufsakademien*), and only rarely by traditional universities. Instead of a diploma, institutions increasingly offer a Bachelor’s degree. Average course length is around seven or eight semesters (3½ to 4 years). In reality, persons with a much wider spectrum of qualifications work in centre-based settings for young children (students in final work placement or induction year; other social and education-related professions; with a non-related vocational qualification; etc.) (Oberhuemer, Schreyer & Neuman, 2010, p. 182).

Although the overwhelming majority of staff in children’s services is female, recent efforts have attracted more men in those positions than before; according to the results of a recent survey conducted throughout Germany by Cremers, Krabel and Calmbach (2010, p. 83), the ratio of male educators in early-years settings is presently around 3% and male educators are primarily concentrated in urban settings. *Erzieherinnen* (educators) form over 70% of the personnel in the different types of services.

In order to fulfill the need for increasing the number of the nursery groups, a large number of staff will be required. If an average staff/child ratio of 1:5 is used as a basis of calculation, approx. 50 000 new full-time positions would become available for the main occupational group (*Erzieherinnen*) in early childhood provision (Oberhuemer, Schreyer & Neuman, 2010).

### 7. CHILDREN WITH A BACKGROUND OF MIGRATION IN EARLY-YEARS SETTINGS IN GERMANY

With 82.2 million inhabitants, the Federal Republic of Germany has the highest population level in Europe. Around 15 million people (20% of the population) are either immigrants or have at least one parent with a non-German background. Every third child born in Germany has a family background of immigration (Oberhuemer, Schreyer & Neuman, 2010). More than a quarter of young people of an age relevant to education (up to 25 years) and as many as one-third of children under the age of six have a migration background (Rauschenbach 2008, p.15). Based on the official data of the Federal Office of Statistics (2006, as referenced by Rauschenbach 2008), about 33% of children up to the age of 6 have migration background. Even if the majority of them were born in Germany, every third child has parents who immigrated to Germany, or the children themselves were not born in the country.

As of 31.07.2006 (Munich key data, 2011), out of 1 313 093 inhabitants of Munich, 302 479 have a background of migration which means that the share of foreigners is 23%. Compared to the results from 1970 when non-German nationals accounted for 13.8%, for a period of 46 years, their number has increased significantly. Groups numbering over 10 000 inhabitants include nationalities such as Turkish 3.4%; Croatian 1.9%; Serbian (including Montenegro) 1.9%; Greek 1.7%; Italian 1.6%;

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41 The name *Erzieherin* derives from the German term *Erziehung* – upbringing.
Bosnian 1.3%; Polish 0.9%. 9,917 children under 6 years are 14.4% of the total number of foreigners in Munich. Therefore, the need for finding means for improving the process of integration of children with a migrant background in Germany is quite evident, especially bearing in mind that the numbers have increased during the last six years.

A lot of day care centres in Munich have a large number of families from other countries – in some of them there are children from 30 different nations. These institutions need special conditions and educational approaches, as well as close contact with children and parents in order to cope with this situation. It requires a special approach that describes the theory of intercultural education for all Munich day care centres, based on academic understanding. The day care centres in Munich make great efforts to improve the chances for education and to support children in a suitable way.

More than a quarter of children in centre-based settings in the western part of Germany come from families where at least one parent was born outside Germany; over half of those children do not speak German at home (Leu & Schelle, 2009, p. 11). The OECD Background Report for Germany indicates that “children with a migration background enter kindergarten later than German children. Roughly 25% of foreign children between the age of 3 and 6 do not attend kindergarten at all; for German children (with a migration background), this figure is almost 19%” (OECD, 2006, p. 71).

This situation, in combination with the PISA findings which illustrated how disadvantaged many immigrant children are within the school system, has led to a flurry of policy initiatives in this area. In a number of Länder it is now a requirement for children to participate in a language screening assessment prior to school entry. However, there are considerable regional variations in the types of assessment used, as well as in the kinds of focused language support measures implemented; some of them start when the children are two years old, whereas others do not begin until the last year in kindergarten.

In the area of language and literacy, many initiatives are underway. However, figures from the Federal Statistical Office show that more than 50% of the children in the western regions who do not speak German at home are concentrated in about 7% of centres (Deutsches Jugendinstitut & Dortmunder Arbeitsstelle, 2008, p.162). Additional figures from a recent monitoring report by the Bertelsmann Foundation (Bock-Famulla & Große-Wöhrmann, 2010, as referenced by Oberhuemer, 2012) also show considerable differences in the enrolment rates of children from German-speaking and non-German-speaking families. In Schleswig-Holstein, the difference is most marked, with 91% of non-migrant children and only 60% of migrant children enrolled. Similar discrepancies can be found in Bavaria (95/75%), Bremen (96/75%) and the city-state of Berlin (100/80%). If the transition to more focused approaches towards language and literacy is to take effect, there is an obvious need for a redistribution of resources and targeted funding for work with these children and their families (Leu & Schelle, 2009). However, it is important to bear in mind another point of view, expressed by Pfaff (2010), who maintains that the current focus on German is at the expense of children’s ethnic mother tongues.

Beyond this, an extensive network of early childhood language co-ordinators across Bavaria was launched in 2008 with considerable government funding support. These language advisers, who undergo a targeted and evaluated course of training, work closely with early childhood centres on a regional basis. The impact of this network on the language and literacy related work of the centres is being assessed over time by a research team at the State Institute of Early Childhood Research (Oberhuemer, 2012).
Rauschenbach (2008) presented the first national report on education, titled “Education in Germany”, commissioned by the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder (KMK) and the Federal Ministry for Education and Research (BMBF) and generated with the support of the German Youth Institute (DJI); this document includes, among others, a detailed analysis of education and migration. It poses the question whether making kindergarten mandatory would help for better results of children with migrant background, but the conclusion is that such a change would be neither justified nor appropriate, considering the relatively large number of 4- to 6-year old children with a migrant background who already attend. With more than 80% of migrant children having been to a kindergarten before school enrolment during the last two years, the call for mandatory kindergarten is not the answer and the danger of unintended side effects is far too great. But as Rauschenbach (2008) surmises, educational and care provision should be made available for the large majority of children with a migrant background who were born in Germany and a stronger point should be made to support goal-oriented language acquisition by children aged 2 to 4 in particular, since this is the age when children learn language, therefore a second language can be learned quite naturally during this time. There is a need for achieving more than the currently-planned language tests and subsequent support during the last year of kindergarten.

8. BAVARIA: SCREENING ASSESSMENT OF THE LEVEL OF GERMAN LANGUAGE PRIOR TO SCHOOL ENTRY

The early education debate has led to increased interest in issues of pedagogical documentation and, during recent years, a number of observation schedules and documentation approaches have been piloted (Oberhuemer, Schreyer, & Neuman, 2010, p. 177).

According to Oberhuemer (2012), in a number of Länder it is now a requirement for children to participate in a language screening assessment prior to school entry. There are considerable regional variations in the types of assessment used, as well as in the kinds of focused language support measures implemented. In Bavaria, for example, no language screening test is required; however, since the autumn of 2005, the German language competence of 4½ year olds children whose parents are both born outside Germany is assessed by kindergarten educators with the help of a specially-developed observation instrument called “SISMIK”. Also, since 2008, the language competence of all children is assessed towards the end of the year before the final year in kindergarten, again through a prescribed assessment procedure (Ulich & Mayr, 2006, as referenced by Oberhuemer, 2012). The observation instrument used for children whose first language is German is called “SELDAK”.

In both cases, the assessment is based on individual observation of the child during the daily activities. The results show the level of development of the child’s vocabulary, manner of speaking, sentence construction and grammar, as well as their ability to understand requests to do something and requests in general. This assessment is performed in order to give teachers and parents an idea of children’s German language development and, if required, to plan further educational work with them. For the children with migrant background, the results are often low because more of these children do not speak or understand German so well, since they are learning German as a second language or they grow up as bilingual, as their parents do not speak the German language well, or at all. After this assessment, one and a half years before school, there is an optional 240-hour preliminary German course, free of charge for parents, aimed at developing German linguistic skills and linguistic interest in children with a background of migration. On the basis of the SISMIK assessment results, such cases can be recommended for participation in the 240-hour preliminary German language course; 120 hours take place during the first half of the year in the kindergarten, during the other everyday
activities of the child, in his/her own group of children. The other 120 hours are spread throughout one year (the last year before school) in kindergarten and at primary school. In kindergarten, promotion developing language skills occurs during the whole day with all children, but also during special assessments based on topics which are interesting to the children. In school children have 1½ hours (two classes of 45 minutes each) weekly. Besides an intensive language instruction, the children have the chance to get to know primary school in a playful way. Parents are responsible for bringing their child to these courses, which take place in the primary school, and accompanying him/her back to the kindergarten, but it is often the teachers who make the necessary organization to assist parents with this.

According to the official press release of the Department for Education and Sport of the City of Munich, published in September 2012, during the 2011/2012 school year in Munich, 429 German-language courses were held, attended by 3860 children with a background of migration; in comparison, the same source states that the courses started in 2002/2003 with only 10 children; five years later, in 2007/2008, they were attended by 339 children.

Additionally, a programme has been established since October 2010, promoting the 240-lesson German course and training kindergarten educators and primary teachers on working with children during this course. So far, 26 courses have been held and 520 people have been trained; it is expected that many more will be trained since the programme will continue until July 2013.

9. SUPPORT OF CHILDREN FROM FAMILIES WITH A BACKGROUND OF MIGRATION: INTERCULTURAL EDUCATION AND LANGUAGE SECTION IN THE DEPARTMENT OF EDUCATION AND SPORT OF THE CITY OF MUNICH

The Intercultural Education and Language Section in the Department of Education and Sport of the City of Munich is responsible for providing support to the early childhood practitioners in the field of intercultural pedagogy and language. This unit has existed for 30 years. It started with one person, but currently 21 people collaborate with the staff in kindergartens, nursery groups and places where the children from 6 to 10 can stay after school.

The concept of the Intercultural Education and Language Section has historically grown over the past 30 years. The central interest of the Intercultural Education and Language Section is to bring about tolerance, respect for other religions, life and cultural forms to all children and to create a basis for collaboration and coexistence despite differences in ancestry, language or religion. Cross-cultural day care centres which educate and care for children, see a main point in the “pedagogy of diversity”; children from all over the world learn tolerance and acquaintance with diversity and different languages, which they see as their greatest resource and all parents as partners in order to achieve best educational results for their child.

The Intercultural Education and Language Section is responsible for all 400 public day care centres and kindergartens; the private and church-run ones can also use their expertise. Since 2002, there have been 50 educators who work in preschool settings and are trained to give support to their colleagues in these kindergartens and day care centres in the field of intercultural education and language. Currently there is a project aiming at increasing their number and now they are 146. The 21 collaborators from the Intercultural and Language Section support their work in kindergartens, making sure that all the staff in the different kindergartens work according to the same principles concerning intercultural education and language, and achieve the quality in this regard according to the curriculum. For the last
four years these 21 specialists have been busy with the implementation of large projects helping children develop their language.

The first project was initiated by the Bavarian Ministry of Social Affairs. It started in October 2008 and ended in December 2011. In this project, colleagues from the Intercultural Education and Language Section went to the day care centres and worked with the entire team in order to improve the pedagogy concerning language and intercultural education.

In March 2011 another project was started by the German Federal Government and it is expected to continue until December 2014. In this project, staff works directly with the children in the day care centres, helping them to improve their language skills. The specialists from the Intercultural and Language Section are working closely with the staff in early-years settings, who get all the help they need from them.

10. SOME CURRENT FACTS AND FIGURES CONNECTED WITH PRESCHOOL EDUCATION AND CARE IN MUNICH

There are approximately 1180 nursery groups, kindergartens, and settings for children after school in Munich – approximately 400 of them are public (of the City of Munich) and the other part (about 780) are private, mostly non-profit centres either with church governance or run by other welfare agencies. According to the press release of the Department for Education and Sport of the City of Munich (published in September 2011) (Presseinformation, 2011), in 2011 the number of children in public nursery groups is 3 030, while in private ones there are 7 831 children. The number of children in kindergartens is different and not proportional to the number of groups: the number of children in the public kindergartens (17 095) is close to the number in the private ones (19 051) because some of the settings of the second type have a smaller number of groups within them.

Getting some idea of the control of the education and care control in the pre-school settings in Bavaria, once again we should note that in Germany, public administration does not directly provide the majority of these services (at least in the western Länder) but co-operates with a variety of non-profit service agencies. Here, church and voluntary organizations play a vital role; around two-thirds of centre-based early education/care provisions across the country are run by these so-called “free providers” (Freie Träger der Jugendhilfe) (Oberhuemer, 2012). Therefore, educational specialists from the City of Munich, Section for Preschool Education and Care control the work of the educators, and in the public ones one controlling person is responsible for 10 to 12 kindergartens. Eighteen people control the work in all 780 private and church kindergartens; but the aforementioned private agencies are responsible themselves for the kindergartens as well, so these 18 people actually control the quality of the agencies’ work.

According to the official press release of the Department for Education and Sport of the City of Munich (given in September 2011), during the period 2011 – 2016, 330 000 000 euro (separate from the aforementioned 100 000 000 euro for building new nurseries before 1st August 2013) are planned for investment in the sector of nurseries, kindergartens, Hort (places where children aged 6-10 can go after school), and houses for children. These funds are expected to create 3 516 places in nurseries; 4 525 places in kindergartens, 1 625 places in Hort, 1600 places in day centres. That means the investment per a place in a new kindergarten in a massive building is around 20 000 euro; for a place in a Hort – 25 000 euro; for a place in a nursery – 38 000 euro.
According to the official press release of the Department for Education and Sport of the City of Munich (given in September 2011), with regard to the need for early childhood educators, the local Government has started a programme for re-qualification of unemployed primary teachers in order to give them the qualification, knowledge and skills to work with children in preschool age.

11. CONCLUSIONS

Based on the data from the English-language sources of information cited herein, as well as on the author’s first-hand observation, we can verify Oberhuemer’s verdict that contemporary early childhood education and care in the land of Fröbel is in “a process of considerable transition and transformation” (Oberhuemer 2012, p. 23).

The broadly-accepted socio-pedagogical approach which views upbringing, education and care as complementary in a holistic way is an important asset of the German system. Preschool educators in Germany, despite generally not having a higher-education degree, possess excellent training and dedication in their work with children, providing them with the proper knowledge for working with children of preschool age and helping them improve their personal skills and talents. The interaction between all ages in each mixed-age group helps the realization of these goals while keeping in mind the individual interests of each child. Additionally, the relatively small number of children under the care of each educator (especially in Bavaria) is one of the main prerequisites for successful preschool education, something a lot of European countries would like to be able to achieve for their kindergartens as well.

Since one of each three children has a migrant background, provision of support must be arranged earlier to compensate for inequalities in family and social starting conditions at the source. The active language learning support should begin much earlier than the current one and a half years before school, so that it can be applied at an age when children learn languages and speech in a natural way.

The challenges of migration in Germany will continue to increase, especially among younger children. However, in spite of all the difficulties related to migration, it is good to see many examples of active steps to improve integration which are taken in kindergarten and at school.

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HSBEI HPE «Krasnoyarsk State Agrarian University» (KSAU)
Russia, Krasnoyarsk, 90, Mira Avenue

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