DETERMINANTS OF THE BRAINWORK CULTURE FORMATION OF MAGISTRACY AND POST-GRADUATE STUDENTS IN HIGHER EDUCATIONAL INSTITUTIONS

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Abstract

The article considers the main determinants of the brainwork culture formation of magistracy and post-graduate students in higher educational institutions. It presents a series of requirements for organization of educational process aimed at the personality development of magistracy and post-graduate students.

Key words: *brainwork culture, post-graduate students, masters, university, critical thinking, reflexion*

When considering determinants of the brainwork culture formation on the plane of personality, it is necessary to look at the stages of this formation and its mechanisms in the structure of individual development of magistry and post-graduate students. Correlation of these components with the professional formation of a personality and its scientific outlook determined differences caused by different aims of educational activity. Analysis of psychological and pedagogical literature allows to single out several promising trends in the formation of brainwork culture of the investigated subjects' category. In the conceptions of T.V.Kudryavtsev [1], E.F.Zeer [1], A.T.Rostunov [1] practically the same stages of professional development are separated, which are based on the complex approach to the problem of brainwork culture upbringing; this makes us analyze formation of professional knowledge on the pattern of one of these conceptions. The conception of professional development worked out by T.V.Kudryavtsev distinguishes stages of professional formation. The 1st stage means the rise of professional intentions (assimilation of knowledge and skills in brainwork culture). Its criterion is socially and psychologically grounded choice of the profession. Professional knowledge, which helps to obtain general information about a profession, has an essential role in choosing a profession. The 2nd stage is professional training (working out and perfection of knowledge and skills in brainwork culture). The aim of this stage is reproductive mastering of professional knowledge and skills. The psychological criterion is professional self-determination. The 3d stage is the process of active entering into a profession for magistry students and motivated desire to take up scientific research for post-graduate students (mastering the complex approach to the problem of brainwork culture upbringing). The criterion of this stage is high indices of activity, a certain level of development of professionally important qualities, including professional knowledge, and psychological comfort. The 4th stage is full realization of the personality in profession for those who complete their education after their magistry and writing their thesis for post-graduates (the use of aquired knowledge and skills in brainwork culture in their practical and scientific activities). The level of realization is characterized not only by the high degree of operational sphere mastering but by its creative fulfillment, formation of individual style, and also by permanent striving for self-perfection. It is necessary to note that creativity and self-perfection are rather closely connected with brainwork culture mastering. We see the deficiency of this conception in correlation of professional formation stages with person's life phases, which makes them confined by time limits. From foreign conceptions of professional development we choose the ideas of D.Super [1], who correlates stages of professional development with life phases. In his conception D.Super united phenomenological model of E.Gintsberg and the ideas of differential psychology. According to D.Super the choice of profession is a long process, as a result of which the child increases his relations to life, and consequently a complex approach to the problem of brainwork culture upbringing is realized and perfected during the whole life. The main attention should be given to the change in a person's behaviour in the process of professional and intellectual development, which is individually distinctive and unique. D.Super distinguishes several stages in the process of professional development, that are correlated to stages of forming the complex approach to the problem of brainwork culture upbringing: [229]

1. The stage of awakening (from birth to the age of 14). The I-concept develops due to a child's identification with important adults. At the first phase of this stage, the phase of imagination (the age of 4-10), professional roles are performed in a child's imagination; at the phase of interests (the age of 11-12) professionally important preferences are formed; at the phase of abilities (the age of 13-14) individual abilities are revealed, ideas of professional requirements and training appear (formation and filling with the necessary knowledge and skills of personal, intellectual, organizational and technical, hygienic, aesthetic components of brainwork culture).
2. The stage of investigation (the age of 15-24). An individual tries to test himself in different roles with orientation to his individual capacities. At the tentative phase (the age of 15-17) the preliminary professional choice is made, his own capacities are estimated; at the phase of approbation (the age of 20-24) the search for activity sphere and professional life is carried out. There is one more phase between these two phases, it is the phase of transition (the age of 17-20). At this phase an attempt of realising I-concept is made (formation of knowledge and skills in the context of the complex approach to the problem of brainwork culture upbringing).
3. The stage of consolidation (the age of 25-44). An individual strives for the stable position in profession and in doing research (realization of the complex approach to the problem of brainwork culture upbringing in practice).
4. At the stage of preservation (the age of 35-64) professional development takes place without going out of the limits of the found professional sphere, which is possible at the previous stage (further filling the components of brainwork culture with the necessary content, the use of complex approach in practical activity).
5. The stage of recession (from the age of 65). The development of new roles takes place: partial participation in professional life, supervision of the others' professional activity (passing knowledge and skills in brainwork culture to the next generations).

The most important advantage of the presented conception is understanding of professional development as a long-lasting integral process of a personality development, but from the point of view of brainwork culture upbringing this conception does not include all age phases of a personality development. Another deficiency of this conception from the position of brainwork culture upbringing is the fact that the process of professional development is considered as quantitative growth of some parameters, i.e. the notion of development is replaced by that of extension. Let's consider the next conception worked out by Y.P.Povarenkov [2]. Stages, periods and phases are used by the scientist as the units of division into periods within the frames of the conception of personality's professional formation. Stages mainly coincide with the stages of a personality's professional socialization and consequently with the stages of brainwork culture formation: pre-professional development of a personality (preparing to professionalization); searching and choosing a profession and an educational institution; professional training; independent professional activity. Periods are the components of stages and appear as a result of specification of a personality's professional formation. In general four standard periods are distinguished: professional adaptation or completion of professional development of the preceding stage, stable indices rising; a period of the highest achievements; a period of recession, which may be preceded by stagnation. Phases are the result of further specification of personality's professional formation and are connected with solving more particular problems of professional development. In this aspect brainwork culture upbringing may be considered. Y.P.Povarenkov has shown in the process of experimental research that the stage of professional training at the university is divided into three periods: educational-academical (1-3d years); educational-professional (3-5th years) and scientific-researching (post-graduate). In the first period educational activity is formed, adequate to university requirements, and a student's personality; in the second one the base of professional personality and of psychological system of professional activity begins to form; in the third one personal qualities of a scientist are formed. While studying these periods within the frames of the given conception one can follow the transition of educational-academic knowledge acquired in the bachelor course to educational-professional knowledge of the master's course. In the post-graduate course formation of educational-scientific knowledge takes place.

Then it is possible to define phases of maximum development of knowledge and skills, to study the problem of their effectiveness and optimal development for the given groups of students. It is brainwork culture that makes an optimal base for easy transition from a bachelor course to a master course and from a master course to a post-graduate course. But this conception does not take into account stages of personality formation in the period before getting higher education and during a post-graduate course in full volume.

The conception of professional development by L.M.Mitina [2] may also serve as a base for brainwork culture mastering by magistry and post-graduate students, it is based on the idea of S.L.Rubinshtein [3] about two ways of life, which made the basis for developing two models: the model of adaptive behaviour and the model of professional development. Both models distinguish three stages, that we are going to dwell upon briefly. Professional functioning within the frames of the adaptive behaviour model is determined by the contradictions between the requirements of professional community to professional activity and the possibilities of a person. At the 1st stage, that of professional adaptation, the increased requirements of activity come into conflict with personality characteristics, knowledge and skills formed in the process of training. At the next stage, that of professional formation, the necessity of adapting to external requirements contradicts a worked out individual style of activity and communication, manner of activity. At the last stage, that of professional stagnation, due to the use of stereotypes and routine, pre-conditions for decreasing activity, lack of receptivity of new ideas appear. Brainwork culture can to a certain extent eliminate those contradictions. Professional development is determined by contradictions of a different type. At the stage of self-determination a comparison of oneself to the others takes place, an understanding of the necessity of one's own changes and transformations. At the stage of self-expression a coordination of one's behaviour to the realised motivation occurs. The main motivation factor of development is striving for the greatest possible realization of one's possibilities. At the third stage, that of self-realization, the life philosophy of oneself as a professional is formed, the sense of life is understood. As one realizes the one-sidedness of professional development he goes out of the limits of his profession, and thus satisfies his need for thorough development and scientific research of new ideas. This allows to judge of the level of brainwork culture mastering, which is reflected in applying the acquired knowledge to different spheres of activity, including the scientific research. In our opinion, the position of A.R.Fonaryov should be considered, it doubts the necessity of working out age periods in the formation of personality in a profession, as, according to the author, the level of professionalism does not depend on the age and the length of service in a profession, especially because “in any point of development there is a possibility of both starting ordinary functioning and even age regressing (not without reason we speak of eternal youngsters and grey-haired babies)”, and of “transcending one's own age (not without reason we speak of young people wise like old ones or of adults' responsibility of some youths)” [1] When analyzing various conceptions within the frames of brainwork culture upbringing, one should note that it is necessary to take into account age periodization and professional periodization as much as the level of personality development. In this connection it is necessary to distinguish invariant stages of brainwork culture upbringing, which can be realized at different age stages: understanding (the essence of brainwork culture), assimilation (special character of brainwork culture), usage (introduction of acquired knowledge into practical activity). Thus, we can separate the following stages of brainwork culture personal formation of magistry students as professionals and of post-graduate students as research workers: ***master course + post-graduate course:*** *realizing knowledge and skills in brainwork culture – comprehension of knowledge and skills in brainwork culture – mastering knowledge and skills in brainwork culture – working out knowledge and skills in brainwork culture – perfection of knowledge and skills in brainwork culture – mastering the complex approach to brainwork culture – using knowledge and skills in brainwork culture in practical professional activity (for magistracy students) and in scientific research (for post-graduate students) – elaboration and replenishment of content basis of brainwork culture (for post-graduate students) – passing knowledge and skills in brainwork culture to next generations.* Successful self-realization of a future specialist in his professional activity is conditioned by a series of circumstances: the right choice of profession, conformity of specialist's individual peculiarities to the chosen professional activity, the demand of such specialists in labour market, competitiveness of the profession, the ability to critical thinking.

Nowadays specialists mastering several professions get priority in obtaining a job. According to A.K.Markova, professional qualification of a person is his private property and it is necessary to be able to offer it in the labour market. In this connection special demands are made on the specialist's professional training in the university education. Special importance in the training of the future specialists is given to realizing the contradictions between:

- self-development of a future specialist and self-preservation: self-development requires rapid professional growth and self-preservation dictates the necessity of distributing one's energy for a liong period of time;
- uneven comprehension of separate actions and the whole structure of brainwork culture activity by future specialists on the basis of complex approach and competences (personal, specific, individual, etc.);
- striving for narrow specialization and the need for learning something about adjacent professions, for mastering closely-related specialities, for being a universal;
- non-coincidence of a future specialist's manifestations of psychical qualities in a mastered professional sphere and in non-professional sphere;
- multivariant professional development of a future specialist and the absence of motivational readiness to its realization;
- multivariant professional development of a future specialist and different forms of regression;
- confidence of a future specialist in the right choice of a profession and the absence of experience in the chosen speciality;
- ability to offer himself as a professional, to reveal his professional possibilities to other people and the absence of corresponding competences.

Resolving the listed contradictions in a specialist's professional training demands possessing the skills of critical thinking and the skills of working out reflective strategies, that is, giving methods and skills of brainwork culture in the frames of educational anthropology, which can influence professional development. From the point of view of brainwork culture as the structural part of anthropological paradigm reflection is a principle of human thinking, an attempt to forecast and to comprehend one's own forms of thinking, to analyze critically the acquired knowledge, an activity directed to comprehension of one's own actions and to understanding the peculiarities of man's inner world. Reflective processes have been attracting attention of thinkers since the time of antique philosophy. Thus, Aristotle was interested in this phenomenon of human consciousness, which nowadays is studied not only by philosophy and psychology but also by pedagogics, logic, etc. The ancient Greek philosopher defined reflection as “thinking directed towards thinking”. This is confirmed in the works by Plato, who found out the unity of being thought and the thought itself. Dekart also noted that reflection is understood as a method of comprehending immediate true foundations of consciousness. Reflection (from late Latin reflexio, which means “turning back”) is an action of consciousness directed to its knowledge. According to Hegel, reflection is an internal form of self-consciousness and self-development of culture. Philosophers K.Marx and F.Engels thought that the constituent of brainwork culture considered in this paper is directed to revealing general “essential forces” of a person and of mankind. This process is often related to the method of introspection. The founder of this method English philosopher J.Locke thought that there were two sources of all human knowledge: the first one are objects of the outer world; the second one is the activity of one's own mind. *Objects of the outer world* is the source of getting knowledge about external things due to the impressions (or ideas) that people get through perception, i.e. through organs of sense (eyesight, hearing, etc.). *Activity of the mind*, which, according to Locke, includes thinking, doubt, belief, reasoning, cognition, desire is realized by means of a special inner feeling – reflection. Reflection, according to Locke, is “observation which the mind uses for its activity”. Locke used the notion of reflection to ground the existence of metalevel in the processes of cognition, rightness and necessity of self-observation. It should be noted that Locke gave psychological direction to understanding of reflection, according to

which consciousness is studied as an individual autonomous sphere. However there are other treatments of reflection, that consider it not only as an act of consciousness but as a component of an action, of social practice. Not simply some mental phenomena become subjects of reflection, but their conditioning by social and cultural context, social institutions, etc. Thus, reflective teaching did not appear without ground, it was influenced by many philosophic and pedagogical theories. Phenomenon of self-consciousness had been in the centre of humanitarian thought beginning from antiquity and up to the philosophers and psychologists of the XXth century, up to Husserl and Dewey, Mamardashvili and Lefevre. From the point of view of K.Yaspers self-consciousness as a special process of consciousness problematizing its own aims and stereotypes began in the so-called "axial epoch" of history, which lasted from the VIIIth till the IInd century B.C. It was in this period of time that traditional, mythological consciousness was criticized. "All this was happening by way of reflection. Consciousness was comprehending consciousness, thinking was making thinking its object... The main categories, that we have been using to this day, were developed in this epoch... This process made many people review, question, analyse all the views, habits and conditions uncosciously accepted before". Despite the previous comprehension of reflection appearing, there are still some doubts in science as to realization of reflective procedures by consciousness. "Once", V.A.Lefevre writes, "I said to my colleague, who was engaged in teaching a chimpanzee the sign language, that it would be interesting to find out if the chimpanzee had reflection. The colleague immediately objected: "Do people have it? Can it be that what we call reflection is just an illusion arising from grammatical structures of a language?" This is a very good question". A phrase like "I think that I think" may really be just a phrase behind which there is no real experience of consciousness. One of the founders of American pragmatism, a philosopher, psychologist and educator John Dewey defined reflection and "reflective experience" as an active, persistent and attentive scrutiny of any conviction, arising in practice, as to the causes giving a basis for this conviction and as to the consequences, which is the result of this conviction. This understanding of reflection becomes more and more topical in the modern pedagogical process. Besides, reflection is usually understood as an act of consciousness, which seems to be extracted from communication. But practice is always interaction, communication. Is reflection possible as an element of interaction, as collective reflection? It is an especially important question for the practice of reflective teaching. Teaching is a principally two-way, interactive process. The answer to the question originates in the history of philosophy. The name of Socrates began to be often mentioned in modern literature on the methods of teaching not accidentally. It is necessary to admit that reflective teaching is rooted in Socrates' philosophy, in so-called socratic questioning, the essence of which is overcoming habitual opinions, stereotypes, myths, that are always necessary for us to use in every day life. Socrates called his method metaphorically as mayevtica, which meant "the birth assistance art" of thought. By communicating to people, by conducting permanent discussion, Socrates deliberately revealed in his talks unexpected "areas of ignorance" in the spheres where everything seemed well known, making people think as if for the first time, independently, without any given support, and started the mechanism of reflection. Socrates identified a philosopher with pure consciousness whose function is to question. This is reflected in the maxim "I know that I know nothing". It was supposed that knowledge can be found only through self-cognition of the other one, and to get it questions about the eseence of phenomena are necessary. Finally, we should single out modern American constructivism as one of pedagogical bases of the reflective model of teaching, which considers the teaching process as the two-way one, where the students connect all the information received from different sources with their personal experience of world perception, as the process where this information is not considered by the students as something added to their store of knowledge, but as new prospects for reconstructing the existing internal knowledge. Representatives of constructivism think that a student achieves the greatest success when he is in the process of independent searching and constructing the knowledge which is necessary for him personally. The process is estimated as continuous and endless, not limited by institutionally given frames. There are not possibly any scientists in Russian psychology who have not treated the problems of reflection. L.S.Vygotsky defines reflection as "reflection of one's own processes in consciousness". S.L.Rubinstein, the author of another psychological conception, subject-actional approach, which gives reflection the leading role in self-determination of a person, emphasized the idea that "arising of consciousness is related to separating reflection on the surrounding world and on a person himself

from the life and immediate feeling". In our opinion, he has given a very interesting definition of a personality, using the notions of "reflection" and "self-consciousness": "Personality in its real existence, in its self-consciousness is what a person calls his "I" while he realizes himself as a subject". "I" is a personality as a whole, in the unity of all aspects of existence, reflected in self-consciousness... As we can see, a person is not born as a personality, he becomes a personality. So, in order to understand the way of his development a person has to consider it in a certain aspect: what I was? - what did I do? - what have I become?". Thus, reflection does not only reconstruct what there was, but represents what exists and projects one's own "I" and all the person's life on the future. It is also necessary to recall Y.A.Ponomaryov, one of elaborators of creative thinking and intuition theory. His conception stands separately in Soviet psychology because of identification of creative activity with intuition and its contrasting with rational process, at the same time reflection for him is one of the main characteristics of creative activity. As this outstanding scientist believed, a person becomes for himself an object of control, and this means that reflection, being like a "mirror" reflecting all the changes in a person, becomes the main means of self-development, a condition and a method of personal growth. Inclusion of reflection into activity puts the subject of activity in the position of an investigator in relation to his own activity. The works by A.V.Karpov, I.N.Semyonov and S.U.Stepanov and others **define the functions of reflection.** It allows a person:

- to control his thinking (relation to self-regulation of thinking);
- to estimate not only correctness of thoughts but also their logical consistency;
- to look for the solutions of tasks that are impossible to solve without its use.

Speaking of the critical thinking as a constituent of brainwork culture in anthropology of education, one should note that it is an intellectually regulated process of active analysis and synthesis of acquired information, taking into account stress-management and time-management and built up from the position of creative activity. D.Halpern in the work "Psychology of critical thinking" notes that the use of cognitive techniques and methods leads to getting a desired result. **It is proved** that it is characteristic for critical thinking to construct logical conclusions (Simon & Kaplan, 1989), to create logical patterns correlated with one another (Stahl & Stahl, 1991) and to take grounded solutions, which concern declining some judgement, agreeing to it or its temporal postponing (Moor & Parker, 1994). "Critical thinking includes estimation of the thinking process itself, i.e. the course of reasoning that lead to the conclusions or those factors which were taken into consideration when making a decision". M.V.Klarina asserts that critical thinking represents rational, reflective thinking, which is directed to deciding what should be believed or what actions should be performed. In case of such an understanding critical thinking includes both abilities and predispositions. This kind of thinking is necessary for a civilized person in order to arrange properly his reflective strategies during the whole life. In the narrow meaning reflective strategies of learning-cognitive activity are the way to get knowledge of the highest level of professional mastership or of a person's professionalism. In this case the content of the professionalism phenomenon is considered at the inter-disciplinal level, the dependence between professionalism and other peculiarities of a person, ways and conditions for getting professionalism, and also methods of preventing professional deformation are traced. Besides that, reflection as a constituent of brainwork culture helps to study processes of further training on the basis of education anthropology, when a person changes his profession, and in the new sphere of work he has to reach maximum professionalism, to reveal new sides of his personality growth. Investigation of the factors of reaching the highest level of maturity by the small and big social communities is significant, maturity is conveyed in acquiring qualitative definiteness expressed in appropriate attributes. As progressive development and self-development of a person are related to the processes of cognition, communication and activities within the frames of different organizational structures these phenomena are in the sphere of researchers' attention. After defining the circle of problems being solved in this sphere by brainwork culture on the basis of anthropological approach, it is necessary to note the importance of informational providing not only masters and post-graduates but also their scientific supervisers. Revealing and studying some authors' systems of specialists' activities are significant as well as spreading this innovational experience from the position of critical thinking. The modern system of higher professional education should adapt flexibly and dynamically to social and

economic changes, providing competitiveness of a graduate in his further activity. In accordance with this, one of the most important tasks of a higher school lecturer is creating conditions for the formation of a future specialist's self-determination, for elaboration of personal qualities demanded by modern society. This is caused by the fact that without professional self-determination a student looses the possibility to realize himself in conditions of the market economy, where a person may become successful only if he has good professional training, possesses abilities of communication and brainwork culture as a structural constituent of anthropological paradigm, is able to adapt to the changing conditions of a society, can win a competition.

Masters and post-graduates of the higher school do not always understand their personal and professional peculiarities. The problem of revising the education process in the higher school and directing it to the course of modeling the structure of students' personality with the purpose of creating conditions for their self-cognition and self-realization arises. It should be noted that modeling and revealing a future professional “I” testify the personal growth of a graduate, his possibilities in realization of his future professional activity. One of the ways out of the given problem is organization of educational and cognitive activity on the grounds of reflective approach based on critical thinking. Let's dwell on the above given in more detail. An interest to studying characteristics of the higher school didactic system, which is based on the principles of reflective education, is caused by the reflective strategy of upbringing and education becoming firmly established in higher school system, which provides a person's education and formation of his personality as well as training of a specialist. The main issues of the strategy find their reflection in state documents. The analysis of the works on the problem of reflection (N.G.Alekseev, D.S.Ermakov, K.Y.Vazina, E.V.Ilyenkov, V.A.Slastyonin, I.A.Stetsenko, G.P.Shchedrovitsky and others) shows that reflection is not only considered by the researchers as the most important element of a person's formation process in the aspect of personal and professional development, but it comes out as a means of a person's comprehension of his own activity and it opens the way to self-perfection, self-correction. Meanwhile, in modern research in pedagogics and psychology of the secondary and higher school (I.A.Bochkaryova, M.Lipman and others) the other reflective strategy of education and upbringing is proposed. In accordance with this approach the higher school didactic system should acquire a new trait, i.e. orientation on developing reflection in masters and post-graduates as the basic element of professional activity. What does the term “critical thinking” mean? It should be mentioned that there is a great variety of opinions as to its definition. On the one hand, the word “critical” is associated in Russian with something negative, rejecting. Thus, for many people critical thinking supposes argument, discussion, conflict. On the other hand, some people unite in it such notions as “critical thinking”, “analytical thinking”, “logical thinking”, “creative thinking”. The term “critical thinking” has long been known in science. We can meet it in the works of such outstanding psychologists as J.Piazhe, J.Bruner, but this notion started to be used in the professional language of practical teachers not long ago. Today we can find different definitions of critical thinking in scientific sources. Judy A. Braus and David Wood define critical thinking as reasonable reflective thinking concentrated on the decision of what to believe in and what to do. According to the other sources, critical thinking is a search of common sense: how to judge objectively and to act logically, considering both one's own point of view and the others' opinions; an ability to refuse of one's own prejudices. Critical thinking, which is able to put forward new ideas and to see new possibilities, is very essential in solving problems. Despite a variety of critical thinking definitions, it is possible to see something common in them. Critical thinking means estimating, reflective thinking. It is open thinking, which does not accept dogma and is developing by putting new information on a personal life experience. It is this characteristic that differentiates critical thinking from creative thinking, which does not include estimation but supposes production of new ideas that often go out of the frames of life experience, of external norms and rules. But it is difficult to make a clear boundary between critical and creative thinking. It is possible to say that critical thinking is a starting point for creative thinking development, especially as both critical and creative thinking develop in synthesis. What are specific features of educational technology of critical thinking development? Firstly, educational process is built on scientifically grounded regularities of a person and information interaction. Secondly, phases of this technology (a challenge, comprehension, reflection) are instrumentally ensured in the way that a teacher may be maximum flexible and

authentic in any learning situation at any moment of time: this means various visual forms and strategies of working with a text, organizing discussions and the process of projects realization. Thirdly, the technology strategies allow to conduct the whole teaching on the principles of cooperation, concerted planning and comprehension. The term “technology” in this case does not mean algorithmic setting, mechanistic approach. It is rather an open system of strategies, which predetermines the process of forming an independent, critically thinking specialist. Critical thinking is a system of intellectual strategies and communicative qualities, allowing to interact effectively with informational reality. Educational technology of critical thinking development is a system of teaching strategies, methods and devices, directed towards critical thinking development from the position of the complex approach to brainwork culture. It is common for all teaching strategies to build educational process basing on three phases: a challenge – comprehension – reflection. This means diagnostics authentic to the aim and conforming to certain communicative and behavioural conditions: respect to a personality, accepting different points of view, taking into account an individual style of teaching activity, readiness to take a justified risk. Any form of work, any method, strategy used in educational technology of critical thinking development are based on conforming to these three phases. The term “phase” shows illegibility of the boundaries of ending a period of learning (in distinction from, for example, programmed teaching).

The first phase is that of a challenge. Subjects of educational process realize the following purposes at this phase:

- independent actualization of acquired knowledge and meanings on the given theme – personal component; a teacher is required just to organize the process of reconstruction of acquired knowledge and meanings in connection with the studied material;
- awakening cognitive activity in connection with the studied or investigated theme or by involving magistracy and post-graduate students into the activity of formulating hypotheses, suppositions, or by means of formulating a question of higher level, or by organizing work in learning groups. There are lots of methods awakening interest to a theme. This interest creates something like “informational vacuum”, which one wants to fill (intellectual component);
- independent determining directions in studying the theme by students, which helps critical thinking development. A critically thinking person is, first of all, an independently thinking one (intellectual component).

The second phase is the phase of sense realization (or comprehension). At the first phase of working with information a student creates for himself a sense: “What does it mean for me?”, “Why do I need it?” At the second phase it is necessary to realize this sense in a certain educational-cognitive activity – organization of active work with information. If at the first stage the student could formulate his personal aim in the studied material, at the second phase he subordinates his work to this aim, independently correlates the new material with the information he possesses. In educational psychology the importance of experiencing the effect of acquisition is described. In cognitive sphere, especially in working with fiction, it is not always easy to formulate what exactly a person has understood and what he has acquired in the process of work. Nevertheless many methods of the suggested technology are aimed at the assistance in experiencing the mentioned effect. It is a peculiar support for the thinking skills development (organizational-technical component).

The third phase is the phase of reflection. In this case reflection is understood as “inserting” new experience, new knowledge into the system of personality senses. To make it more simple, the third phase is directed to making the new material the students' possession in the full meaning of the word. It is necessary for this purpose:

- to systematize new material independently taking into account health-saving (hygienic component);
- to define directions for further studying the theme.

Here a small psychological stratagem is necessary. The thing is that nobody wants new knowledge to be successfully “buried” among other successfully acquired knowledge and skills. Thus, it is necessary to leave space for further studying the theme. There is a term “defective completeness”, which means exceeding desire to learn everything completely, to pass it and never to come back to it. Such completeness is more than ruinous for the development of thinking (though it might be suitable for the progress in studies), and the first place is given to critical thinking (esthetic component). Reflective approach presents a system-forming factor and a universal mechanism of managing an educational process on the basis of mutual-distributing activity; investigation, comprehension and re-comprehension of information by magistracy students and post-graduate students, reforming it by independent choice of micro-aims by the students considering their individual possibilities, abilities, needs, and defining the trajectory of personal qualities. When presenting new requirements for the organization of educational process with the purpose of personal development of magistry students and post-graduate students, it is important to preserve scientific and pedagogical potential of the higher school and at the same time to raise the professional competence level, which is the measure and method of creative self-realization of the students' personalities in various kinds of their future professional activity. It is also important to create conditions in the higher school, stimulating a striving for innovational activity, elaboration of new lecture courses, specified courses, reflecting methodological, psychological and pedagogical grounds of modern approaches in education, taking into account specific character of brainwork culture in the stream of education anthropology, that help refusing settled stereotypes of educational activity and acquiring new methods of professional self-realization. Reflective approach in education may be considered as an innovational type of education based on the principle of awareness (the programme of education is comprehended) and choice (an independent choice of micro-aims is made by the students, that reflect an individual trajectory of their development and education). In accordance with this, the process of education should include the following components, effective from the point of view of brainwork culture on the basis of anthropological paradigm, as the most effective and acknowledged in modern education:

1. A technological card, presenting a passport of the future educational and scientific research process where its main parameters are represented completely and capaciously, which provide the success of education.
2. The technology of reflective approach, on its basis the achievement of strategic aims is realized.
3. Means, methods and devices, that will be used at the achievement of strategic aims.
4. The system of management, representing mutual-distributing activity of a teacher and students.

Determinants shown in this article allow not only to broaden and diversify the process of education in the masters' and post-graduate courses, but to direct students for the independent brainwork culture upbringing during all further life in the society, which in its turn allows to minimize negative consequences at the interaction with external environment.

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