

## On the Formation of the Culture of Intellectual Work of the Future Specialist on the Basis of Activity Approach

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### Abstract

*Development of culture enriches humanity with new achievements. Because of this, the education obtained in the youth years is only a base, a foundation which requires ongoing professional development of the person. The culture of intellectual work of the future specialist is an important criterion of his/her professionalism, because, on one hand, it allows performing a productive professional activity and, on the other hand, initiates the development of the intellectual sphere and the culture of the colleagues who work side by side. Therefore, of a particular importance is the problem of updating and developing the culture of intellectual work of the student as a component of professional competence, which gets its specific content in the context of higher education. The topicality of this study is connected with the fact that, on one hand, it meets the pressing practical need of a high level of the intellectual work culture of specialists and, on the other hand, it helps identifying and structuring the scientific-theoretical framework of such activity.*

**Keywords:** *culture, active professional self-upbringing, process of formation of the culture of intellectual work, factors, preconditions, psychological mechanism of formation of the culture of intellectual work, types of action, activity.*

### 1. Introduction

The modern life of society is characterized by active promotion of capitalist relations involving antagonistic confrontation between the bourgeoisie and the working class (Buller, 1984). The increasing complexity and deepening of social processes lead to intensification of the struggle between various philosophical and religious ideas, aggravation of the problems in the moral and cultural life of society, the emergence and development of new directions in science and social practice. Western culture has a significant impact on increasing the role of personal aspirations of people. In connection with this, the role of education in the life of every person and the entire humanity has dramatically increased in recent years (Bibler, 1991).

Learning throughout life has become a requirement of our time, a necessary prerequisite and condition for effective activity in all spheres of public and personal life, as well as for the progressive development of the post-industrial society.

Modern specialist in all periods of his/her life needs to update, supplement and apply the previously acquired knowledge and skills, constantly expand his/her horizons, improve the culture, develop his/her talents, improve the professional level.

The ways of activity associated with the ability to extract, process, actively assimilate and apply new information are becoming the most important. Finding ways to improve the culture of intellectual work in the learning process are constantly in the sphere of interest of pedagogy. At the same time, the need for further improvement of the secondary and higher education requires solving this problem on a new, higher level every time. The insufficient effectiveness is becoming increasingly apparent of the methods of intellectual work, which have been developed by the teachers of the past, with regard to solving the problems created by modern life (Semenov, 1982).

Formation of culture enriches humanity with all new achievements. As a result, the education received in the youth years is only a base, a foundation which requires ongoing professional development of the person. The culture of

intellectual work of the future specialist is an important aspect of his/her professionalism, because, on one hand, it allows carrying put productive professional activity and, on the other hand, initiates the development of the intellectual sphere and culture of the colleagues working side by side. Therefore, of a particular importance now is the problem of formation of the intellectual work culture as a component of professional competence, getting its specific content in the context of higher education (Zinchenko, 1996).

As acknowledged by the practice of that problem's researchers, the classical educational paradigm, which put skills into the foundation of knowledge, is no longer dominant. One of the tasks of modern higher education is to ensure the development of personality, capable of adequate orientation in the ever-expanding flow of scientific information, capable of transformative and creative activity. What is needed now is the formation of the personality of the future specialist in the education process, which will enable the person to go ahead of the demand for knowledge existing at any given time (Peter, 1996).

Leading direction of modernization of higher education is to create conditions for conscious, continuous and sustained personal and professional intellectual growth of students. The problem of the need to form the culture of intellectual work arose as an expression of a pressing social necessity.

Thus, the topicality of this study is due to the fact that, on one hand, it meets the practical needs in connection with the study of the cultural level of intellectual workers, and, on the other hand, it helps identifying and structuring the scientific-theoretical framework for these activities. Revealing the level of research on this problem required thorough study of philosophical, psychological and pedagogic literature. It should be noted that certain aspects of this problem have been considered in science, but this theme has never been the subject of a special study (Kulikova, 2008).

## 2. Method

In our understanding, the term "culture" is interpreted as a determinant of personality development, the source of potential for the personal growth of the specialist. We put as a foundation of this study the cognitive models of intelligence, in which the concept of "intelligence" is treated as a system of intellectual (cognitive in nature) capabilities (Davidovich, 1979).

The processes of development and self-development are taking place throughout the entire life of the person; however, in the youth, they are activated and transformed into purposeful self-creating activity. The studies of this problem have given us reason to believe that the students in the adolescence years are in favorable conditions for the conscious formation of their own culture of intellectual work in its professional aspect (Kogan, 1981).

In the course of study of the intellectual work culture specifics we found out common methodological prerequisites referring to pedagogics and psychology issues, particularities of teaching process and its contradictions, matters in connection with improvement of school teaching, theoretical and practical aspects of pedagogic motivation, the parameters characterizing the level of readiness of high school graduates for further self-education [9].

Practical research on that problem proved that the study of cognition, speech and a number of other psychological processes, view of the general mental development assists in reasoning the provision on social situation of development, new formations characterizing the stages of development, zone of child's proximal development, advance teaching, etc. Those provisions governed the main research directions in establishment of future professional's intellectual work culture.

We found that many researchers studying the development of the personality of the future specialist emphasize the importance of his/her transition to active professional self-upbringing. We have identified several directions in solving this problem: enrichment of personality through creativity; formation of the mechanisms of self-organization and self-realization of each student (I.S. Yakimanskaya); formation of readiness of the person (his/her internal potential) to self-development and self-realization (E.N. Shiyarov); providing opportunities for self-realization, self-organization, self-upbringing and self-development (A.A. Verbitsky, L.N. Kulikova, R. Kh. Shaimardanov); upbringing of the person capable of self-determination, self-education and self-development (I.F. Isaev, R.Kh. Shaimardanov); person's becoming ready to free humanistically oriented individual choice and individual intellectual effort, self-respect and respect for others, independence of judgments and openness to different opinions and unexpected thoughts (V.V. Kraevsky). Thanks to these studies, we are able to comprehend the process of developing the culture of intellectual work as an internally determined process, while considering the specificities of upbringing and training as external conditions which may guide, encourage or adversely affect the process of personality formation.

The identification of the factors, preconditions, conditions and criteria for successful formation of the culture of intellectual work was facilitated by the analysis of researches on:

- organization of independent work – E.Ya. Golant, B.P. Esipov, P.I. Pidkasiy, M.N. Skatkin;
- development of intellectual abilities, formation of the methods of cognitive activity – D.N. Bogoyavlenskaya,

- V.V. Davydov, N.P. Erastov, E.N. Kabanova-Meller, A. V. Karpov, D.B. El'konin;
- use of generalized knowledge – P.Ya. Galperin, N.F. Talyzina, etc.;
  - introduction into the educational content of methodological knowledge – V.V. Kraevsky, I. Ya. Lerner, P.I. Pidkasiystyi, etc.;
  - carrying out self-control of learning activities – L.I. Ruvinsky, etc.;
  - scientific organization of intellectual work – N.K. Krupskaya, V.O. Punskey, I.P. Rachenko, etc.;
  - development of cognitive interests, abilities, willpower, increasing the activity of students in the learning process – S.I. Archangelsky, Yu.K. Babansky, L.V. Baiborodova, V.P. Bespal'ko, M.I. Makhmutov, M.I. Rozhkov, I.F. Kharlamov, T.I. Shamova, L.L. Shevchenko (Shamova, 1982).

The practice of general theory of motives and its connection with intellectual work contributed to understanding the psychological mechanisms of formation of the culture of intellectual work. This thesis is developed in the works of B.G. Ananiev, L.I. Bozhovich, A.K. Markova, T.A. Mathis, A.B. Orlov and A.V. Petrovsky. In recent years, the sphere has widened of the studies that consider the dependence of the level of culture of cognitive and professional activity on the degree of attention of people to their activities during the period of study in the higher education institution (Gardner, 2007). These should include the works by L. N. Barenbaum, M.M. Garifulina, K.R. Ovchinnikova, A.P. Ogarkova, T.Ya. Yakovets and others.

Thus, there have been created in science certain preconditions for solving the problem of formation of the culture of intellectual work at the higher education institution. On the other hand, the analysis of the literature on this subject, as well as the analysis of the practice of formation of the culture of intellectual work of students allow making a conclusion that nowadays the problem under our consideration remains pressing, theoretically and practically significance and, at the same time, poorly understood.

### 3. Results

Following the results of the practical research we found the following real contradictions between:

- society's demand for professionals with a high level of culture of intellectual work (intelligence) and the insufficient providing of intellectual self-development of the future teacher in the educational space of the higher education institution;
- modern requirements for a high level of culture of intellectual work of the teacher and the insufficient development in science of the ways to implement them;
- the interest of future specialists in the productive development of their own culture of intellectual work and the inability of the traditional system of higher education to meet these needs;
- the need to study the factors of fruitful development of the culture of intellectual labor, on one hand, and the inability of the actual pedagogical practice to solve this problem due to incompleteness of the corresponding conception and the process-technological foundations of its implementation, on the other (Kholodnaya, 2012).

The research problem formulated by us taking into account the said contradictions contributed to the establishment of concept of intellectual work culture formation in students, requiring further development and implementation in higher school's academic activity. General pedagogic and practical sense of that problem, impelling need for soonest solution determined the actuality of this research: "Formation of the culture of intellectual work of the future specialist in the higher education institution".

As proven by the practical experience of researchers on that matter, activity theory is not sufficiently developed today. Furthermore, the realization of competency approach is also suspended due to that theory' weak conceptual framework. It is evident that realization of any idea in pedagogy is based on the theory of activity. Upbringing, education and development are the results of human activity. This leads to the first conscious need to investigate a number of issues connected with the theory of activity. The philosophical and economic foundations of the theory of activity are considered in the works of Karl Marx, especially in "Capital". But we are most interested in the generating mechanism of the activity itself (Mamardashvili, 1992).

The practice of using activity instrument as a form of active attitude of an individual to reality is aimed at the achievement of tasks consciously put forward and relates to creation of publically significant values or utilization of social experience.

Activity as external and internal personal activity is manifested in various forms – mental, psychological, physical and is regulated by any perceived target.

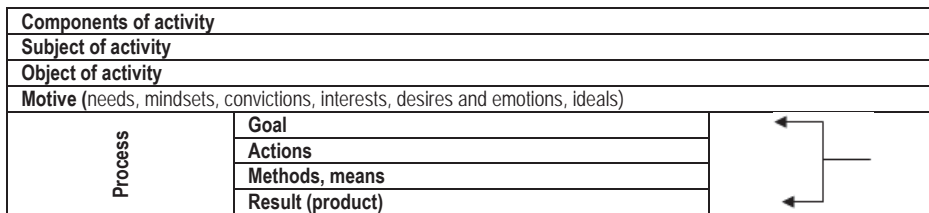
Activity as a way of attitude to the external world means its transformation and conformity with human objectives [14].

As shown by the research, human activity is close to that of animal but differs in creative transformation attitude to the environment. Human activity:

- is considered as getting accommodated in natural environment by large-scale transformation leading to creation of man-made media of human existence. A human keeps own natural organization unchanged, transforming personal way of living;
- suggests targeting in activities;
- as conscious targeting, is related to the ability to analyze situation:
  - a) by finding causal relationship;
  - b) by ability to foresee results;
  - c) by skill to think over the most feasible methods of achievement;
- is exercised by affecting the environment with specially made tools and making artificial objects increasing physical abilities of a human;
- has productive, creative, constructive nature [15].

Theoretical provisions and factual materials obtained in the course of this research enables to designate basic components of activity which are differently manifested in various spheres of public life, have certain orientation, content, countless variety of arrangements and are shown on scheme 1.

**Scheme 1.** Basic components of activity



The subject of activity is the one who carries out activity (human being, collective, society). The object of activity is something toward which the activity is directed (thing, process, phenomenon, the internal state of the person).

Motive as the aggregate of internal and external conditions causes subject's activity and determines the orientation. The following may be motives: needs; social attitudes; convictions; interests; desires and emotions; ideals. The goal of activity is a conscious image of the result, to the achievement of which the action of the person is directed. Activity consists of a chain of actions. Action is a process directed toward realization of the set goal (Kuzmin, 2007).

The German sociologist, philosopher and historian Max Weber identified the following classification of types of actions depending on the motives of action:

- the purposeful action, which is characterized by a rationally set and well thought-out goal. In practice, that provision reflects the purposefulness of individual's impact whose behavior is oriented at target, means and by-effects of his/her actions.
- the value-rational action, which is characterized by conscious determination of its direction and consistently planned orientation toward it. However, its meaning is not to achieve a goal, but it consists in that the individual follows his/her convictions concerning duty, dignity, beauty, piety, etc.;
- the affective (from the lat. *Affectus* – disturbance in the soul) action is due to the emotional state of the individual, who acts, as practice shows, under the influence of affect, if he/she seeks to immediately satisfy his/her need for revenge, pleasure, devotion, etc.;
- the traditional action is based on a long-term habit. Often it is an automatic reaction to the habitual stimulation towards the once internalized orientation (Isaev, 2008).

The types of activities, in which every person gets inevitably involved in the process of his/her individual development, are: game, communication, teaching and work.

Game is a special kind of activity, the purpose of which is not production of any material product, but the process itself: entertainment, leisure.

The characteristic features of the game are the following: it takes place in a conditional situation which, as a rule, is rapidly changing; in its course there are used the so-called substituting things; it is aimed at satisfying the interest of its participants; it contributes to the development of the person, enriches him/her, equips with the necessary skills.

Communication is a kind of activity in which there takes place an exchange of ideas and emotions. Often this kind of activity is extended to include also the exchange of material objects. This wider exchange is material or spiritual (informational) communication.

There are several classifications of communication; for instance, the following means of communication are used:

- direct communication, with the help of natural organs: hands, head, vocal cords, etc.;
  - indirect communication, with the help of specially adapted or invented tools: newspapers, compact discs, trails on the ground and so on;
  - immediate communication, through personal contacts and direct perception of each other;
  - mediated communication, through intermediaries, in particular, through other people.
- Also, communication is classified by communication subjects:
- between real parties;
  - between a real party and an illusory partner, to which the unusual qualities of communication are assigned (this can be pets, toys and so on);
  - between a real party and an imaginary partner in the internal dialogue ("inner voice"), in the dialogue with the image of another person;
  - between the imaginary partners, the characters of the works of fiction.

As practice shows, communication performs the following functions:

- socialization function: formation and development of interpersonal relationships as a condition of becoming of the human being as personality;
  - cognitive function: mutual cognition of people;
  - psychological function: realization of a certain influence on the mental state of the person;
  - identification (opposition): an expression of person's belonging to a group: "I am a friend" or "I am an alien";
  - organizational function: organization of joint activity of people.
- In modern science, there exist several approaches to the question of the relationship between activity and communication:
- communication is an element of any activity, whereas activity is a necessary condition of communication; thus it is possible to put equality sign between them;
  - communication is one of the types of human activity along with game, work, etc.;
  - communication and activity are different categories, two sides of social being of the person: the work activity may proceed without communication, while communication may exist without activity.

The purpose of learning is to acquire knowledge and skills. Teaching may be organized, i.e., done in educational institutions, and non-organized, i.e., done in the course of others as their secondary additional result. Learning can be in the form of self-education (Ananiev, 2000).

Creativity as a type of activity generates something qualitatively new, never existed before; for example, a new goal, a new result, new means, new ways of achieving them. Creativity, as a component of some human activity and an independent activity, is manifested in the work of scientists, inventors, writers, etc.

#### **4. Discussion Experience is Experimental Work**

Modern science acknowledges that everyone possesses the ability to creative activity in one way or another. However, abilities may be developed or they may be wasted. Therefore, it is necessary to master culture, language, knowledge and learn the ways of creative activity, its most important mechanisms.

Thus, activity is a way of human existence and is characterized by:

- the conscious character, when the person deliberately sets the goals of activity and anticipates its results;
- the productive character, when activity is aimed at getting a result (product);
- the transformative character, when the person changes the world and himself/herself;
- the social character, when, as a rule, the person in the course of activity enters into various relationships with other people.

In psychology, a theory of activity was developed by the scientific school of L.S. Vygotsky. The cultural-historical theory and the theory of activity belong to the same scientific school, have a common research field, but they evolved in different years of the Soviet period of Russian psychology on the basis of different cultural traditions and are essentially different conceptual teaching.

The psychological views of L.S. Vygotsky developed during the decline of Silver Age or the Renaissance of Russian culture. There were still alive the ideas of V.S. Solovyov about the "spiritual vertical" of the human being and the

"total unity" of the sensual, rational and spiritual knowledge, there were influential the teachings by G.G. Shpet, A.F. Losev, M.M. Bakhtin, P.A. Florensky. At the same time, L.S. Vygotsky was genuinely fascinated by the Marxist idea about the formation of a new human being and his/her social conditioning.

L.S. Vygotsky's theory is called the cultural-historical one. Let us try to describe its essence. A key characteristic of consciousness is its being determined by the culture. L.S. Vygotsky investigates the internal mechanisms or psychological tools of cultural mediation of consciousness. As shown by the practical experience of researchers, signs can be such a tool, or rather, a system of cultural signs. In the process of child's communication with adults, there takes place assimilation of the systems of cultural signs. They mediate the "lower", involuntary mental functions of attention, memory, thinking, emotions and, thus, provide internalization or the formation of a new quality in the child's mind.

The problem of signs was discussed in the literature before L.S. Vygotsky and after him. His merit was that he empirically, on the basis of extensive factual material, traced the role of the sign and the word in the psychological development of the child and justified the idea about the "sign-based organization" or sign function of consciousness and all mental processes.

Later, L. S. Vygotsky went on to study the "internal side" of the sign, that is, its significations, and explored the development stages of significations in the child. Thus, due to the sign-based organization of consciousness, its semantics, the system of significations and meanings are formed. He developed a doctrine about the system and semantic structure of consciousness, emphasized its integrity. L.S. Vygotsky dreamed about and predicted the development of "higher" psychology. His teaching on the sign-based organization or sign-symbolic function of consciousness was a significant step in this direction and a fundamental contribution to the development of theoretical foundations of humanistic psychology.

Experimental work was done empirically via the diagnostics methods: observation; attending lectures and seminars and further analysis of students' work; questionnaires; detecting skills and abilities of self-education of students; assessment rating sheets, etc.

Using observation as a method of diagnostics we determined problems and difficulties faced by students during classes:

- Most first-year students saw great difficulties in perceiving information during lectures. Statistically it was as follows:
- 29% of students were continuously distracted, concentrating the attention on lecture only for a short time;
- 11% of students were self-immersed and only sometimes would raise their eyes on lecturer hardly perceiving lecturer's speech;
- 6% of students ignored the information without any interest (playing mobile phones, etc.);
- 54% of students were listening attentively but were falling behind, getting the information down, trying to look in neighbors' copybooks;

Meantime, virtually all students mechanically fixed everything told by teacher (lecture's notes were featureless texts written down in each line and with same color pen).

For the purpose of creating culture of intellectual work of future specialists, intellectual work system was determined and pedagogical conditions were developed. To fix student/teacher relationship, the following were organized:

- consulting seminars with teachers;
- continuous seminar "Humanist paradigm as the basis of teaching process";
- round tables and discussion "Student of XXI century", etc.

Such forms of work enabled to change the relationship type for a more peaceful nature with orientation at age, personal features, motives and needs of students.

Statistical, dynamic and variation kinds of individual student works were used simultaneously with bibliographic search of the required information via subject index, text annotation, micro-thesaurus on subjects of the required discipline. Work was done in library. Students were able to get personally acquainted with prospective and retrospective library indexes, their use, the most optimal and fast methods of selection, extraction, systemizing of literature sources. Finally, each student examined alphabetical, thematic, systematic library catalogues and did bibliographic lists on the topics in question.

Maximal activeness of students in class was shown via small group work in cooperation atmosphere. For work in groups, the following efficient approaches were used:

- Finding the gist.

Task:

- a) reading a text: section/chapter;

- b) expressing text's content with a single word;
- c) say the gist with a single phrase – the point without which the text would be senseless.
- Essence.

Task: read a text for some time and with a pencil or mouse if on computer underline the essence. Extra task: exchange work results (what other students underlined as the essence).

- Notes in the margin.

Task: read a text and on a separate sheet make notes in the margin in comments and signs. Exchange work results.

- Terminological contest.

Task: groups is divided into teams. The first team says a new term, the second replied its meaning. Then teams change, etc.

**Table 1.** Criteria and indicators of intellectual work culture components

Components	Low level	Middle level	High level
<b>Intellectual</b>	student cannot manage extraction of the gist from the studied material, concentrates on details and secondary things, features, facts;	basically manages extraction of the gist from the studied material with small errors;	easily and quickly extracts the gist in the studied material;
	does not have command of analysis, synthesis, abstraction;	has command of analysis, synthesis, abstraction (with a little assistance of teacher); average level of thinking independency detected;	has good command of independent analysis, synthesis, abstraction;
	needs continuous detailed assistance of teacher;	tries to independently solve the tasks offered by teacher;	shows independence in thinking, able to find a problem and ways to solve it, exercises continuous self-control;
	is not independent in thinking, tries to use ready solutions;	tries to solve a problem despite the difficulties;	actively participates in knowledge acquisition, discussion, makes suggestions, tries to add something to fellow students' answers;
	does not plan learning process and does not arrange it rationally; does not use self-control in learning.	plans learning sporadically; exercises self-control with deviations not materially effecting acquisition of knowledge.	shows originality in fulfillment of tasks; good planning of the sequence of individual work.

Multilevel tasks on the subjects differing in the volume of reading had higher productivity: 1 level – mandatory tasks; 2 level – mandatory and extra tasks; 3 level – volume in pages specified while the choice of authors and their works was made by students individually.

For the solution of the problem studied, the course "Intellectual work culture" was developed for the purpose to develop knowledge on labor culture, explaining advantages of rational labor; formation of personal features required for successful digestion of the information. The course equaled 30 in-class hours including lectures and practice. Special attention was paid to the core topics of the course: "Psychology", "Attention and kinds of attention", "Memory and types of memories", "Cognition", etc. The course program has 9 units: "Main components of intellectual work culture", "Conditions for efficient perception of new educational material", "Planning and organization of reading", "Basic principles of rational reading", "How to efficiently listen and write down a lecture", etc. Within the said course, students are trained for interpersonal communication.

For assistance to both students and teachers, instructive guidelines were developed "Teaching, planning and doing research in the course of learning", including the following:

- course schedule;
- mid-term planning or planning a series of lectures and seminars;
- summary of theoretical material;
- exercises, practical tasks;
- recommendations aimed at development of abilities and skills of student's individual work;
- test tasks, questionnaires, self-control tasks on the material perceived.

In the unit "Practical advice to students on writing independent works" there was a try to consider the main difficulties faced by students in writing their works, while ways to overcome them were detected and principles of such works writing were specified.

In the unit "Practical recommendations on training thinking operations", recommendations are given on the



development of analysis, synthesis, abstraction, classification, generalizing which contributes to the growth of students' cognitive activity and respective increase of their labor culture.

Check snapshot made as per the guidelines of ascertaining stage of the experiment showed differences in intellectual work culture in students oriented at the improvement of its component. For instance, the level of established labor culture in intellectual component rose from 27% to 51%. So, as on the beginning of experiment, some 65% of students had low level of that component, 26% had average and 9% of students were at high level. After the implementation of teaching conditions the situation changed: 24%, 31% and 45% respectively.

So, the experiment confirmed that efficiency of developed and offered conditions which ensured growing level of intellectual work components. It was experimentally proved that formation of intellectual work culture in higher school students is efficient subject to the observation of a number of scientifically based teaching conditions represented by the aggregate of interconnected and interdependent circumstances of the teaching process. Variants of students' individual work were developed (using textbooks, books, multilevel tasks, etc.). A set of comprehensive diagnostic guidelines was established allowing for checking the level of culture of students' intellectual work and the degree of influence of results on the quality of teaching. The content of study guides is meant to assist in improvement of the results in students' work culture formation. Recommendations for teachers have been made on arrangement of work on formation of higher school students' intellectual work culture.

## 5. Conclusion

This research having theoretical and practical significance, touches upon part of problem aspects on formation of intellectual work culture. The results obtained enabled to specify some problems requiring further development of the sense of activity structuring the consciousness. Substantive practical activity in general is an important formation source for consciousness and personality in general. The core instrument or a tool of substantive activity is action. In the course of real substantive practical activity actions are interiorized in the internal plan of activity. And now, a more complex issues emerges: how further internal plan of activity is formed? It is realized without any influence of substantive activity.

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