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THE CONCEPT OF SCIENTIFIC AND PEDAGOGICAL PROJECT “ROSTOK”

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According to the title in the article describes the main directions of conceptual framework for the development of modern education that underpin the concept of the project. It is specially noted the guidelines principles which indicate ways to meet the challenges of the teaching experiment. The article also draws attention to the system forming factor principles of humanization, integration, ecologization of the educational process, its developing focus. Attention is drawn to an integrated discipline "The Surrounding World" that helps pupils in studying certain issues about the environment

Keywords: innovation; knowledge; creative activity; cognitive activity; child's training activities; ecologization

Згідно з назвою статті описані основні напрямки концептуальної основи для розвитку сучасної освіти, що лежать в основі концепції проекту. Особливо відзначаються принципи керівництва, які вказують способи досягнення завдань навчального експерименту. Стаття також звертає увагу на систему побудови факторних принципів гуманізації, інтеграції, екологізації навчально-виховного процесу й увага, що розвертається навколо неї. Особливо звертається увага на комплексній дисципліні "Навколишній світ", яка допомагає учням у вивченні певних питань про довкілля

Ключові слова: інновації; знання; творча діяльність; пізнавальна діяльність; навчальні заходи дитини; екологізація

1. Introduction

Today's education should provide the background for developing economics based on knowledge. Thus, education system faces some challenges. First of all, teachers must renew their knowledge on permanent basis. Second, the new way of thinking about creating, transferring and using know-how based on the principle of knowledge management. The teacher or tutor should transfer knowledge to the pupils so that pupils create education environment themselves [1].

2. Literature review

Melbourne Declaration on Educational Goals for Young Australians [2] defines the role of important transformations for improving pupil's knowledge and providing national labor market with high-qualified work force. Pupil can't be taught to be creative and innovation in the frames of studying one subject. This goal can be achieved during all educational process.

Kathryn Moyle considers innovations to be the main feature of the Australian school. Thus, she points out two dimensions of school innovations [3]. First is children's willingness to be successful in life and influence economic, social and individual well-being in the society. The second is to define *what exactly* should be done so that school's nature and structure are in line with today's culture level.

Paul Manna, Patrick McGuinn who researched education governance for the twenty-first century, are convinced in high effectiveness of distance education. They believe distance education requires some changes in content, education tools and relation between a teacher and a pupil. [4].

3. The concept of scientific and pedagogical project “Rostok”

Modern education is characterized by the processes enhancing research, educational initiative and creativi-

ty based on the principles of *humanization, integration and ecologyization, activity approach, the harmonious, combining the universal spiritual values and the national character of the education*. As a result of this creative work there arise new education concepts and models, education methods and technologies, curricula, textbooks and manuals; thus new types of schools appear. Nowadays solving an important problem of practical implementation of the pedagogical creativity results in the education content and teaching methods of the younger generation can become significant contribution to the development of education.

We believe, there are various ways of solving the abovementioned problem due to the democratization of education. The Scientific and Pedagogical Project "ROSTOK" is regarded in Ukraine as one of the ways of solving the problem and it is implemented based on the **principles** as listed below:

– **Humanization and Personal Approach** requiring treating every person involved in the education process as a unique personality, revealing and highlighting his/her personal achievements in this process. It is important to respect other person's individuality.

– **Systematization in Education** providing continuous, permanent, system implementation of the new approaches to education based on modern theoretical and methodological background.

– **Ecological Education** expressing the need for creation the kind of education content that can contribute to develop understanding the interrelationships of processes and phenomena in the nature, its objective and universal values, the place of the human in the nature as its integral part, the need for respect the nature, its protection and preserving.

– **Unity of National and Universal in Education** enabling preventing from cosmopolitan perversion as well as nationalist ones in the process of educating the individual.

– **Priority of Developing Education** considering the immediate and unconditional impact of education on the child's development, shaping new abilities defines the advantage of the activity paradigm of education over the knowledge paradigm. Knowledge that is put in the education content is not the objective but the means of learning, personal development, perception, way of thinking, memory, emotions, attention, imagination, specific creative abilities and other qualities.

– **Priority of Creative Activity** involving creating education techniques and teaching technologies, manuals and textbooks based on the creative activity approach to learning, stimulates search activity and offers the best conditions for enhancing students' creative activity [5].

– **Complementarity** requiring the contents, methods and education technologies to be ideologically, meaningfully and systematically united into the single education complex. The latter combines humanitarian, natural, environmental, technical, artistic and aesthetic aspects of the world's perception.

– **Integration** reflecting deep relationship of physical, mental, moral and spiritual aspects of the individual's development. It envisages the implementation of multilevel integration of education content, methods and

education technologies in the comprehensive program of child's development in the Scientific and Pedagogical Project "ROSTOK". The process and the result of combining education elements into the single integrated system for obtaining new in quality results of education are regarded as integration [6].

It is hard to implement all of the abovementioned principles within the frames of a specific educational project but it is important to do our best to take them into account in the process of creating educational materials. Therefore, all the principles listed before are a kind of the benchmarks indicating the ways of solving problems of the Scientific and Pedagogical Project "ROSTOK". *The latter is targeted on the principle of priority in developing education and we used the scientific heritage of L. Vygotsky who was one of the first in introducing the concept of psychological theory of the activity and outlined the basis of the child's creative activity*. The background of the project were the theory of developing education by D. Elkonin, P. Halperin, V. Davydov and modern theoretical research methodology of O. Anisimov, problem of personal-oriented education I. Bekh, modern primary school didactics O. Savchenko, system activity approach to teaching by L. Peterson as well.

We have concluded that developing education is an important aspect of the humanization of education and its necessary condition as well. Indeed, humanism provides a decisive turn to the individual student's education, ensuring the most favorable conditions for identifying and developing student's abilities and skills based on considering his/her personal goals and needs. It's exactly developing education that allows realizing the purposes. The formation of search activity, as necessary component of learning activities is the result of the developing education. Spirituality is known to be the form of search activity of the human being. Formation of human spirituality is the main purpose of humanization of the education.

L. Vygotsky believed: *"Pedagogy must be oriented not on yesterday, but it should consider tomorrow of the child's development. This is the only condition that it can invoke the processes of development, which are located now in the zone of the nearest development."*

The task of education is in creating an educational process that will give the possibility to meet child's needs in the personal development. This process should be ahead of the certain child's qualities manifestation and enhance students to be active. So there should be created certain conditions necessary for the multilateral child's development. So, influenced by education, under the specific conditions of the education process, there are being formed the abilities, which the child has never had before. This is the basis for the theory of *developing education* that asserts the direct effect of the education on the child's development and formation his/her new abilities.

Traditionally the basis of education is believed to be the content; the methods and technologies are derivative. But education develops students by means of its content as well as by the way how it is organized. We highlight several areas in child's development: mastering all the range of general education and skills, accumulation individual experience of search activity, the development of imagination and creativity, training in combi-

nation, construction and conversion. The impact of education content (if even it refers to the most advanced learning) is being decreased if any of these areas is not considered.

4. Research results

Considering results of modern scientific studies of the personality in the process of education, the integrative activity approach has become the basis (background) for the Scientific and Pedagogical Project "ROSTOK". Its essence is in the *system organization* of educational process on scientifically based activities within the frames of the structure of each academic subject, which is a *system forming factor*. Thus, the study subjects are integrated into a single cognitive system allowing students to form an integrated view of the world by means of search and practice activities. Students get knowledge they need by means of various ways of enhancing the cognitive activity in observations, experiments, modeling activities, design objects and world phenomena; they are given special exercises aiming at developing imagination, the task to search for information aiming at developing creativity: composing some fairy tales, legends and stories about the world, poetry exercises; other tasks aiming at mastering general education skills.

The Scientific and Pedagogical Project "ROSTOK" is based on the thesis that child's training activities are primarily based on the ascent from abstractive to specific, from general to private, which reproduces historical process of the origin and development of the knowledge. It is natural that the approach to education under discussion has strong ties with the principle of *integration* [7, p. 32], [8, p. 84]. The principle of *integration* is used in the Scientific and Pedagogical Project "ROSTOK" for creating education content and developing education methods and techniques. This principle is correlated with the one of the developing education.

So, education content created by ascending from the abstractive to the specific is one of the necessary conditions of developing education. It is necessary to integrate the material around certain basic ideas or problem in order to summarize education content in general which is helpful in giving the students overall, integrated view of the problem first, and specifies and expands it then. This approach meets students' age requirements as well.

Integration principle in the Scientific and Pedagogical Project "ROSTOK" was implemented in the formation of its core subject – an integrated discipline "The Surrounding World" for children (age group 7–11). Its main objective is formation an integrated vision of the world, adapted to the students' age demands. The study subject "The Surrounding World" integrates the interrelated sequence of the ideas. Multifaceted, diverse but coherent and unified world in which we live is described (revealed) in this study subject.

The subject "The Surrounding World" integrates students' interests in studying certain issues about the environment. For example, observation method on the initial stage of the experiment and psychologists conclusions revealed the dynamics of the younger students' interests. Out of the wide range of issues about the sur-

rounding world we are mostly interested in the ones listed as follows:

- area of Education, School, Communication, Relationships;
- space, the arising of Stars and Planets, the Main Problems of Civilization, in particular, Environmental Issues in their particular form;
- profession, Life, Leisure, Fashion;
- nature, Human Origin.

The content of the integrated subject "The Surrounding World" takes into account the issues that are of the most interest for the students of the elementary school which can't be totally encompassed in the traditional curriculum of the study course the Science. The integrated approach to developing the content of "The Surrounding World" covers the before mentioned issues, subjecting them to the integrative logic of creating the educational material, as well as child's development patterns. And also the subject includes psychological research results as for the "material" which is the basis of child's imagination which is poorer than the one of adults. The child has less number of images, quality combinations and their diversity. Thus the key task is in enriching child's imagination (age group 7 to 11).

It is important to emphasize that the integrated content makes it necessary to integrate education methods and technologies. Therefore, there were developed integrated methods and appropriate education technologies in the Scientific Pedagogic Project "ROSTOK". For example, psychological researches on the functional asymmetry of cerebral hemispheres are considered. According to those the development of education technology is aiming at combining harmoniously different methods in a unique method system. Those methods are aiming at developing both hemispheres of the brain, senses, emotions, which means that an integral technique is being created. Besides there are considered human personal approach to understanding the integral nature of the child's psyche and the fact that the child perceives the world in an integral way. Consequently the activity is based according to these principles.

The methodology of teaching different subjects includes joint art classes, in particular: Painting, Sculpting, Music, Poetry, Reading, Drama, various elements of Labor Studies. It is very important. This approach is explained due to the need of giving the students the joy of learning for continued deep interest when they are getting educated. If any class of Art is taught lively it meets this requirement (it is proved by the great teachers: I. Pestalotsti, Sukhomlynsky V.).

As it was mentioned above, the *principle of ecology* is one of the leading in the Scientific and Pedagogical Project "ROSTOK". Ecologyzation of education can be carried out in different ways [8], [9]:

- by means of creating special ecology courses;
- by creating additional environmental sections in the frames of the traditional study courses (subjects);
- by penetration of the ecological issues in the content of all the study courses (which is possible due to the integrative content of the ecological science and its penetration nowadays in almost all the areas of the environment).

The latter way (principle) of ecologyzation is regarded as priority and is applied in the Scientific and Pedagogic Project "ROSTOK" when education content of the curriculum is being created. It means that the elements of the environmental education are included in the content of all the subjects:

- shaping knowledge about the patterns and interrelations of natural phenomena, unity of living and inanimate nature, society and nature, the elements of knowledge about improving the environment;

- developing academic skills, moral, aesthetic, ideas about the environment, craving for activity on the environment protection, motives, needs, habits of ecologically reasonable behavior;

- intelligent development – educating the ability of probabilistic analysis of the situations, ability to recognize the universal and pragmatic values).

5. Conclusions

Thus, the major landmarks in the creation and implementation of the Scientific-Pedagogical Project "ROSTOK" are the directions of modern education development as follows: *Humanization, Integration, Ecologyzation of the educational process, its Developing Focus*. These areas are basic ones in the project.

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