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## **The Readiness Formation of Future Technology Teachers to Organise the Creative Activity of Pupils**

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### **Abstract**

The article examines the practice of the readiness formation of future technology teachers to organize the creative activity of pupils in Ukraine and prospects of the usage the advanced pedagogical experience. Also, it justifies the content and features of future technology teachers training based on secondary school and determines the appropriateness of its dissemination into educational practice highest pedagogical school in Ukraine.

**Keywords:** teacher of technology, technological education, readinassness to organize the creative activity of pupils, professional training

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### **The relevance and problem statement**

Requirements of the society to the level of readiness of the younger generation to creatively solve problems arising in the course of life, were the main focus of improving the education system in Ukraine at the beginning of the XXI century. In general, the idea of development the creative capacities of individual meets both his own interests and also national interests and the interests of human society in general. Such approaches are reflected in the National Doctrine of Education of Ukraine: “The state should provide: training of qualified personnel capable of creative work, professional development and implementation of information technology, competitive on the labor market; creation of conditions for the development of gifted children and youth” (Nationalna doktryna..., 2001).

The study of many local and foreign researchers shows that creativity is a complex and unique process that can be learned. For this, it is necessary to identify its laws, on which to create specific methods or techniques.

Thus, modern society needs a proactive, creative, highly educated educator as a teacher trained in the education system, where the priority is to develop the specialist who is professionally competent, who creatively self develops, who is ready not only to the executive activity, but also to the problem research, search activity that creates conditions for self-development and self-realisation. It is

known that generating the creative personality of pupil needs the creative personality – a teacher who not only has a thorough knowledge, but also creatively uses them improvising, experimenting, creating his own ways of solving practical problems.

This means that the problem of professional readiness formation of the future technology teachers to organize the creative activities of pupils caused by theoretical and practical tasks of improving the professional activity of new type specialist who versed in existing life and educational realities of modern society and the individual of modern teacher.

Modern local and foreign high school education practice gives reason to believe that the success of teacher technology training, as well as any subject teachers, largely depends on the systematically formed readiness to his future professional activity (Guttman, 2003).

That is why the relevance of solving the problem of improving the readiness in students requires finding of effective ways for forming in future teachers of technology the systematical knowledge and understanding of the content and nature of their professional activities concerning the organization of creative activity of pupils.

### **Analysis of recent research and publications**

Special requirement that relates to the future teachers of technology, given the state educational policy in Europe, is to professionally meet the level of development in society, modern science and industry. This approach in turn provides conditions for improving mental and physical abilities of each of the students with the purpose to form a law-abiding citizen-worker, creative personality, the mainstay of Western society.

There are teachers and scientists approached the problem of understanding the development of creative abilities of the individual, organizational and methodological support of the process of its implementation. In the works of prominent psychologists Vygotsky, Rubinstein, Leontiev the psychological aspects of creativity is most thoroughly described. Well-known educators Savchenko, Ilyina, Danilov, studied the methods, conditions of the formation the creativity and principles of creative activity of students. Works of Sukhomlynsky where questions of the theory and practice of training, education and development of children considered are of great importance for the organisation of work for development of creative abilities of pupils in the school. Some foreign scholars point the need to restructure teacher training courses, which resulted in the central core of teacher training is practice (Alexander, Makintur, Hirst and others). On the other hand, well-known European scientists Alamaki, Borg, Lindstrom, Kananoya, Kennedy, Peltonen, Rasmussen, Toerkauf, Shulman, Shon determined at different times importance of the formation of future teachers to the professional activity.

At the same time, scientists of our country in their writings point to the fact that the current programs of higher pedagogical education for future teachers of technology in Ukraine may not provide in a sufficient degree the professional competence because of weak connection directly with the school (Vyhrusch, Madzihon, Sydorenko, Thorzhevskyy).

Therefore, the **goal** of the presented paper is to consider the content and features of formation of professional readiness of the future technology teachers to organize creative activities of pupils within the professional training of students on the basis of a comprehensive educational institution.

### **The main material research**

After the entry of Ukraine into the European educational community, the urgency of modernization of higher pedagogical education in Ukraine that aims at improving quality of specialists training in accordance with European standards, is growing permanently.

Today a lot of talk about improving the quality of educational activities in different areas of education, since the ability to pedagogical creativity of the teacher is one of his professional qualities. Essence of the term – creative component in the educational sphere is determined by the general structure of teaching and educational activity in which the mandatory elements are the process of creativity by itself, product of creative activity, personality of the teacher as a professional, creative abilities, the conditions within which the creativity is going on. The “Ukrainian Pedagogical encyclopedic dictionary” under the definition of “methods of cognitive activity of pupils” noted that “the creativity of pupils in their cognitive activity is characterized by the following features: a) it is controlled by the teacher and in the course of deployment can be corrected and adjusted by the set guidelines and corresponding indicators; b) all creative acts of pupils previously are played by the teacher in his mind and imagination, ie the results of creative activity do not have an objective novelty and great public importance. Thus, the teacher may not only carry out systematic and purposeful leadership of cognitive activity of students, but also specially prepare them for creative way of mastering scientific information. In a system of such training, a great place belongs to teaching pupils the methods of one or another science”.

However, the difficulties that accompany local future teachers of technology due to low level of formation of readiness for professional activities, are in many components of the professional training of students. Particularly during pedagogical practice student feels it: in communication with schoolchildren; in mastering by student-intern of pedagogical technologies and techniques; in organization of project and technological activities at the lessons of technologies; inconsistency of logistic support lessons, pupils and students by manuals and textbooks; absence of a system in the organization of project activity of pupils of

basic and high school; weak interaction between schools and institutions on improvement of technological education; inconsistency in financing of material and technical base of school educational workshops.

The readiness of technology teacher to organize creative activity of pupils is defined by us as a set of motives of professional activities related to the organization of creative and constructive activities, obtained knowledge about the nature of creative constructive work and patterns of its organization in the pedagogical process, as well as Gnostic, project, constructive, organizational, communicative and reflexive skills required for effective organization of creative activity of pupils.

Traditionally, during the formation of practical readiness of students for future professional activity, we presume that practical training on conducting of test lessons using training games and exercises do not fully allow students to understand the changes in the level of development of their professional qualities and competences (Davydov, 1986).

Direction of educational process to the development of creative abilities had received confirmation in the works of several local scientists regarding the stages of such activities. In particular, the first phase analyzed the content of educational material for each direction. Creativeness of training content is determined by how it promotes assimilation imagination, associative memory in high school; formation in them problem vision, the ability to nominate hypothesis, revealing of inconsistencies, overcoming the inertia of thinking; acquiring of skills to analyze, integrate and synthesize information; development of interpersonal communication, integrity and independence of perception, thinking divergency, search and converting style of thinking and its alternativeness; the establishment of a positive “I- concept”, development of communicative creative skills, independence and creative activity. In the second stage, educational process comprises the following teaching and educational and creative tasks which ensure effective usage of the content of each topic for development of motivation, the respective competencies, creative skills and mental processes of the individual. The third – special courses aimed at developing creative skills of senior pupils in the process of search and research activity. This approach ensured empowering of educational environment, the real integration of schools, extracurricular institution and higher education. Thus, a practical component of methodology assumes creating logistical, organizational, technological, psychological and pedagogical conditions to ensure the effectiveness of educational and developmental work of branch of pedagogical university in the school. Providing logistical conditions with regard to their compliance with topics of student research should be based on cooperation agreements with universities, research institutions, research and production enterprises (Tykhenko, 2010). Based on the current European “two-phase” model of training future teachers of technology

we have developed the concept of Learning and Scientific Center of technological and vocational education as a separated division of pedagogical university (Further LSC). At the core activity of LSC, research and practically oriented nature of professional training students in the conditions secondary school was determined.

This training consists in full immersion of future technology teachers in environment of their chosen profession, the application of innovative pedagogical technologies, research activity and engineering activity. It should be noted that the choice of forms and methods of work with students in the classroom, attention is directed to the efficacy of appropriate methods, activating creativity of the student, business, role games, analyzing of specific work situations, the problem presentation of material and other. Using the business, role- and other games as a method of development the creative activity of pupils the following objectives are solved:

- purposeful acquaintance of pupils with the content of professions which are the focus of the educational task,
- familiarizing of pupils with the creative aspect of the professional activity;
- determination of their own abilities and preferences within professional self-determination by professional testings,
- detailed analysis of the prospects for mastery of specific knowledge and skills or certain profession as a whole,
- creation of organizational and pedagogical conditions for individual and group project and technological activity with processing of exemplary object of work.

In this future technology teacher focuses on the development of creative abilities of pupils autonomy because professional interests and inclinations of the pupils more fully manifest through creativity. Further, in all places of approbation of the project, it was established: a significant increase of the interest of future teachers of technology in their own professional future; rising technological culture of students; activation of student research activities in the technologies where they are developing together with university professors – training projects for labor training, curriculum for circles of technical creativity, pedagogical projects about content and methods for conducting of lessons, scientific student work, portfolios, workbooks, developings of exercises and testing materials for project and technological teaching of pupils; increasing the quality and number of publications of students' research articles, significantly increased the level of student reports based on professional competencies acquired during pedagogical practice. It should be noted that in the context of our study, we understand the competence as generalized qualities and abilities of the individual, enabling the most universal usage and application of already been formed knowledge and skills (Zhernoklieiev, 2012).

In the process of organizing the work with creative projects on the lessons of labor training, readiness of students-interns as future technology teachers to the professional activity has gained further development. The activity of LSC has changed the role of secondary school – from passive to active cooperation in the preparation of future technology teachers. It should be noted that in these conditions, reflective component of future technology teacher readiness to the organization of creative activity of pupils includes: formation of reflexive position to assess the readiness to the leadership of creative activity of pupils; professional and personal centration on pupil in the learning process (subjective orientation); personal involvement in reflexively reflected learning situation that is manifested in understanding personal involvement in and responsibility for the results of the pupils activity; construction and adaptation of educational material according to the capabilities of pupils; forecasting the possible difficulties; stimulation of his independent actions in deciding the content of the creative organization of pupils activity.

Among the future teachers of technologies which are participating in the LSC, self-education (work in libraries, consulting with more experienced teachers and leading faculty members, exchange of views on various meetings of the teachers of the school and students, seminars, conferences of exchange of experience and the latest techniques and advances in teaching science) has gained popularity. It is known that improving of educational achievements, developing pedagogical knowledge in the process of self education requires no additional pedagogical load and therefore government spending, but it is suitable only for those who are highly motivated to learn. Such motivation in students – future teachers of technology and pupils ensured by opportunity to improve the practical skills of various kinds in innovative training and labor activity within the LSC.

Our research found that the practical implementation of the above approaches to theory and methods of teaching technologies within the common educational space “Higher Educational Institution – School” goes with a significant advance in getting students the knowledge and practical skills in an environment of future profession that provides sustainable growth of professional competence. Research work also included the stay of students from European countries in the LSC, where the exchange of experience in training of technology teachers at the level of “teacher-student”, “student-student”, as well as joint seminars with leading teachers – metodologists carried out.

## **Conclusions**

When conducting joint theoretical and practical classes the task of technology teacher training in Ukraine was assessed as highly efficient and deemed to have a significant educational effect creative use of national and foreign experience. Considering such classes in the broader context of Ukraine's integration

into the European educational space within the present study, plan of stages for realisation of its tasks in the sphere of local technology teachers training was developed. During the first phase it was assumed the introduction of materials on the history and development of subjects into curriculum of lectures “Fundamentals of the theory of technological education” and “Teaching Methods” “Technical kinds of work”. That is an example of approbation the integrative courses which are actively being introduced in the curricula of national universities.

Such an approach primarily allows to overcome the fragmentation in the training of future technology teachers to organize creative activities of pupils and bring it into compliance with European level of development of science and culture. It was also recommended to students during pedagogical practice in schools use the knowledge gained in the study of the above disciplines.

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