

THE FUTURE PEDAGOGUE PROJECT-TECHNOLOGICAL CULTURE FORMATION IN THE EDUCATIONAL SPACE OF THE UNIVERSITY

Dmitry A. Krylov^{1*}, Sergei Y. Lavrentiev² & Valentina A. Komelina³

¹Prof., Mari State University, Russia, krida@mail.ru

²Asst. Prof., Mari State University, Russia, lavrsu@mail.ru

³Prof. Dr., Mari State University, Russia, tmtipo@marsu.ru

*Corresponding author

Abstract

New tasks for preparing students for work in the conditions of a post-industrial information society, in the conditions of the formation of an electronic (project-technological) culture of man and society are possible only if there is a developed design and technological culture of the individual. In the article, on the basis of theoretical and empirical research, approaches to the definition of design and technological culture as important components of vocational training of the future pedagogue in the conditions of the modern educational environment of the university are analyzed. The author's interpretation of the concept of "project and technological culture of the pedagogue" is described as a dynamic aggregate of elements that combine knowledge, abilities, skills, motivation, values, personal qualities that are necessary for effective mastery of transformational activity. According to the content structure, the project and technological culture of the pedagogue is a process of creative self-realization of the individual. Structural components of the project-technological culture of the future pedagogue are motivational-value, cognitive, practical-activity, emotional-volitional and reflexive-evaluative, for which the following functions are characteristic: goal-setting, epistemological, technological, corrective and diagnostic.

Keywords: project-technological culture of the teacher, actualization, essence, conceptual ideas, content, components, functions.

1. INTRODUCTION

The modern world is characterized as a "world of changes", which was demanded by a person who has a high level of education and is able to master the world's realities scientifically, on the basis of constant self-improvement, self-education, self-development, taking into account the ever-growing dynamics of changes in socio-cultural and political spheres, science, in relationships with nature.

2. OPINIONS AND DISCUSSION

The problem of creating a modern competitive and demanded system for the training of pedagogical personnel has risen sharply in recent decades under the impact of changes in the sphere of education, its role in civilizational and socio-economic development in our country and a whole world. The most significant factors of the actualization of the system of training pedagogical personnel and the formation of a project-technological culture of a teacher include: strengthening the role of broad fundamental educational training, providing the potential for future self-education and professional adaptation; integration of education, science and industry (dual education, etc.); integration of secondary and higher schools in the form of educational consortia of various types (for example, such processes in Germany and France can serve); Strengthening the role of education in the economy of developed countries as an integral driver of capital (the emergence of "hot", qualitative economies with the highest level of demand for education and science); the formation of the system of continuous education (Howard, 2002).

To describe the current state of the information technology society, the term "technological world" has been put into circulation and is actively used. That to live a successful live in this world and have influence its development, citizens should be well informed and prepared, and, for technology to become a philosophy of action, students should be able to design their activities and technologically implement it competently, that is, to have a high level of design- Technological culture. To carry out an effective management of the project-technological activities of the students can be adequately prepared pedagogue.

The phenomenon of design and technological culture begins to attract the attention of many researchers and becomes one of the important components of the modern educational process. However, the essence of the concept of the "design and technological culture" of the pedagogue has not yet been formed, its components have not been determined, the theoretical and methodological conditions of formation have not been substantiated, and so on. The issues of the development of the design and technological culture of the teacher have not yet been adequately covered in the theoretical and methodological studies, although other components of the professional activity and the culture of the teacher (project, technological, technical, graphic, information, etc.) have been studied quite widely.

In order to define the essence of the pedagogue's technological culture, the following important categories should be characterized: culture, project, engineering, technology, technological culture as the categories that are the basis of the technology-project activity of the future pedagogue.

Analysis of philosophical, psychological-pelagic, cultural and historical literature shows that the first theoretical concept of culture refers to the spiritual heritage of the new time, when it, becoming the value of an independent concept, becomes an object of philosophical and theoretical interest. One of the first anthropological treatment of culture was given by E. Taylor, who defined it as a collection of knowledge, art, morality, law, customs and other characteristics inherent in a person as a member of society, while believing that historical religions originate from the idea of the soul. In philosophical understanding, "culture" is defined as a way of life of an individual, and as a feature of the consciousness of people's behavior and activity in specific spheres of social life.

J. Jones views design as a mental activity related to the production of ideas. In his opinion, the aim of designing is to initiate changes in a man in an artificial environment. The natural environment cannot be projected, because it is an objective reality from the scientific, materialistic point of view: everything that a person's hand touches during purposeful activity becomes an artificial environment. Designing is a mental change in this environment (Jones, 1991). P. Hill considers the design process broader, combining in it together with creative and transforming activities in the material sphere (the technological aspect is involved in the design) (Hill, 1970).

Summarizing the presented definitions, we characterize the project culture of the teacher as an integrative property of the personality, which actively implements itself in individual or collective project activities and is a prerequisite for the effective professional development of the pedagogue (Krylov, 2015).

Another component of the project-technological culture of the pedagogue is a technological culture that determines its technological aspect. This approach is based on an essential feature of all production and social (pedagogical and design) processes is their technology - strict adherence to the relevant content and sequence of stages of practical implementation of projects, that is, the use of certain technologies. Accordingly, the problem of technologization of production, social, including pedagogical processes in recent years has been transformed into the need to develop technological competence and technological culture of their performers.

In a generalized form, under technological culture, we mean the level of development of the transformational activity of man and society, expressed in the aggregate of achieved technologies of material and spiritual production, as well as in the level of mastering man in ways of knowing himself and the world around him, allowing him to participate in modern technological processes and providing a harmonious the interaction of man, nature and the technological environment, that is, their humane partnership (Krylov, 2016).

Analyzed approaches to the design and technological culture, reflected in the publications of domestic and foreign scientists, make it possible to assume that the design and technological culture of the teacher should be based on:

- project and technological competence of students, which are formed on the appropriate knowledge, skills and skills;
- creative attitude to the content and structure of labor training, presupposes an activity in creative and transformational activities aimed at its optimization and effective organization;
- the formation of creative features and abilities of the personality of the future teacher;
- the ability to design their own technological approaches to the performance of pedagogical, artistic and engineering tasks in dynamically changing non-standard situations and to transform in accordance with the requirements of the information environment (Gutman, 2015).

From this perspective, we can assume that in a broad interpretation the design and technological culture of the pedagogue is a qualitative integral education and provides: a set of professional competencies that correspond to the current level of society's development; the development of design and design functionality and the psychological readiness of applying innovative approaches to their implementation; ability to creatively solve design and technological problems; the ability to act in non-standard conditions of the labor training process and the ability to transform them; the ability to predict the consequences of design decisions and be able to bear responsibility for them.

In the narrow sense, the design and technological culture of the pedagogue is characterized by the presence of motivational attitudes and value - semantic orientations that reflect his abilities for self-development, self-realization and relaxation and are formed in the conditions of engineering, pedagogical and design projects. We consider the main content elements in the structure of the project-technological culture to be design and technological, based on information-communicative, technical, artistic-graphic, economic, environmental, pedagogical and others. Components of the project-technological culture of the future teacher are motivational-value, cognitive, practical-activity, emotional-volitional and reflexive-evaluative, for which the following functions are characteristic: goal-setting, epistemological, technological, corrective and diagnostic.

3. CONCLUSION

So, the project-technological culture of the pedagogue is an important component of his professional culture. The foundations of the design and technological culture of the pedagogue were determined, which helped us to define the essence of the concept "design and technological culture". The design and technological culture of the teacher is examined by us in the context of engineering, pedagogical and design - projecting. It is a qualitative integrated vocational and personal education, formed in the conditions of engineering, pedagogical and design projects. Under the project-technological culture of a pedagogue we mean a dynamic set of elements that combine knowledge, skills, motivation, values, personal qualities that are necessary for effective mastery of transformational activity. On the content structure, it is a process of creative self-realization of the individual. An important component of it is the diagnostic procedures containing criteria, indicators and tools for measuring the results of activities, the level of competence of the students.

4. ACKNOWLEDGEMENT

The present work is supported by the Russian Foundation for Humanities and Mari El republic. Research project No 16-16-12005 «Pedagogical support of formation of professional competitiveness of university students in the educational space of the Mari El Republic».

REFERENCES LIST

- Christopher J. Jones (1991). *Designing Designing*. London. Architecture Design and Technology Press. – 266 p.
- Dmitry A. Krylov, Nikolai V. Kuzmin, Sergey G. Korotkov. (2015). The Model of Formation of Project Culture of the Future Pedagogue in the Course of Vocational Training. *Review of European Studies*. Vol. 7. No 8; 2015, pp. 28–34. DOI: 10.5539/res.v7n8p233.
- Dmitry A. Krylov, Sergei Y. Lavrentiev, Valentina A. Komelina, Svetlana A. Arefeva and Nikolai M. Shvetsov. (2016). Essence and Contents Project-Technological Pedagogue's Culture. *The Social Sciences*. Vol. 11; 2016, pp 1627-1633. DOI: 10.3923/sscience.2016.1627.1633/
- Evgeniya V. Gutman, Dmitry A. Krylov, Svetlana A. Arefeva, Svetlana N. Fedorova, Peter A. Apakaev, Tatyana N. Petrova, Valentina A. Komelina. (2015). The Peculiarities of Socio-Educational Support of the Future Specialist Professional Formation in Higher Education. *Review of European Studies*. Vol. 7. No 3; 2015, pp. 286–291. DOI:10.5539/res. v7n3p286.
- Hill H. Percy (1970). *The science of engineering design*. New York. Holt, Rinehart and Winston. 134 p.
- Rheingold Howard. (2002). *Smart mobs: the next social revolution*. New York: Basic Books, 2002. – 266 p.