



## DEVELOPMENT OF DESIGN COMPETENCIES IN FUTURE TECHNOLOGY TEACHERS IN THE CONDITIONS OF THE THIRD RENAISSANCE

**Norbutaeva Dilafruz Abdurasulovna**

independent researcher at UzNIIPN

<https://doi.org/10.5281/zenodo.10348624>

**Annotation.** This article shows the development of design competencies among future technology teachers.

**Key words:** designer, competence, development, technology, future technology teachers.

Currently, the entire education system is faced with the issue of providing students with opportunities to prepare themselves at a high level for future professional activities. After all, the education system requires a future teacher with high qualifications and deep knowledge in the field of education and upbringing.

The teaching staff providing education in the higher education system must have deep knowledge in the field of education, that is, be aware of the latest developments in their field in accordance with the requirements of the time, love their profession and show interest in their academic discipline that they teach, organize practical work on the subject in accordance with the requirements of the time.

To further enhance the professional proficiency of future technology teachers, creative approaches to solving many problems should be undertaken to ensure that future teachers are thoughtful and entrepreneurial design professionals. New teaching methods included in the educational process involve achieving high results in a short time, without unnecessary mental and physical effort on the part of the teacher and students, who, in the process of his studies at a higher educational institution, rises from the object he must learn to the subject, directly involved in his upbringing. The student becomes the owner of the learning session, just like the teacher. In modern lessons, the teacher of the subject "Technology" is not a ruler, but an adult partner, striving to obtain the necessary amount of knowledge in the field of education, taking into account his opinions and views, and jointly actively participating in discussions during the lesson.

In the process of developing design competencies among future teachers-technologists, with the correct choice of teaching methods, it is necessary to focus on the following learning goals, namely: the place of the subject of a given





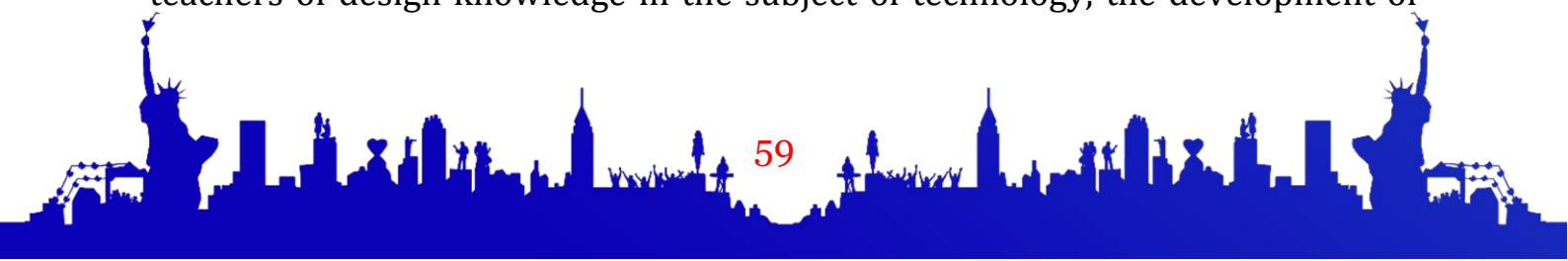
specialty in the system of other disciplines; the objectives of the training session in which the teaching method is used; the nature of the subject and educational material; organizational forms of work in which the method should be applied; type and nature of teaching aids and didactic means used in teaching, and complexity; physiological and psychological abilities of future teachers, determined not only by individual characteristics, but also by specific conditions for conducting classes; characteristics of a teacher as a specialist, scientist and teacher [1, p. 118].

The organization of the educational process in educational institutions in accordance with the state educational standard, based on pedagogical technologies and modern information technologies, requires highly qualified teachers from higher educational institutions. Therefore, future teachers need to master the following teaching methods: verbal method (lecture, conversation, story, etc.); methodology for organizing and conducting practical and laboratory classes; independent forms of training; logical teaching method; problem-research (reproductive) method; visual method; inductive and deductive methods; scientific methods; methods of control and self-control of learning.

The dialectical nature of mastering the following methods of teaching the process includes two interrelated aspects: the activity of the teacher in the management and organization of the educational process and the educational and cognitive activity of students.

Scientists and teachers identify several classifications of teaching methods: 1) according to the level of activity of students: active and passive; 2) by source of knowledge: verbal methods (the source of knowledge is the spoken or printed word); visual methods (the source of knowledge is observed objects, phenomena, visual aids, computer models, etc.); practical methods (students gain knowledge and develop competencies by performing practical actions) [1, p. 221].

In the process of training future teachers in the subject of technology, it is necessary to try to fully use the capabilities of modern pedagogical educational technologies in the development of design abilities. In the process of developing design competencies in the training of teachers in the subject of technology, as well as the introduction of various teaching technologies at all levels of the educational system, will undoubtedly lead to the emergence of new high-quality results. But the main goal in this process should be the mastery by future teachers of design knowledge in the subject of technology, the development of





their design competencies based on the formation of creative abilities, for which various forms and methods are used in the classroom.

Each teacher providing training must clearly determine the level of students' abilities, setting himself the task of developing design competencies as part of managing the project activities of future teachers and transferring new knowledge to them, and individually draw up an "action plan" with each of them, that is, choose the right methods training and practical exercises in accordance with the acquired knowledge and skills of students.

When developing design competencies among future technology teachers, the focus should be on the use of creative and active teaching methods. Therefore, one of the main ways to develop design competencies in students is to use an integrated teaching method, which allows teachers in the subject of technology to systematically implement interdisciplinary connections in teaching and build a project-based learning process using the maximum number of skills acquired in practice. An integrated approach to educational activities lies in the fact that for its implementation it is necessary to apply a number of knowledge, skills and abilities acquired not only in the subject being studied, but also in other disciplines, for example, a workshop on technological education, sewing equipment, drawing, geometry, design and sewing design, composition, teaching, coloring, computer graphics and information technology - all of which, depending on the circumstances, will allow future pre-technology teachers to develop versatility in relation to project activities. In the process of training future teachers in the subject of technology, various areas of modern pedagogical technologies can be used.

Teacher-scientist Zh.G. Yuldashev described the following technologies:

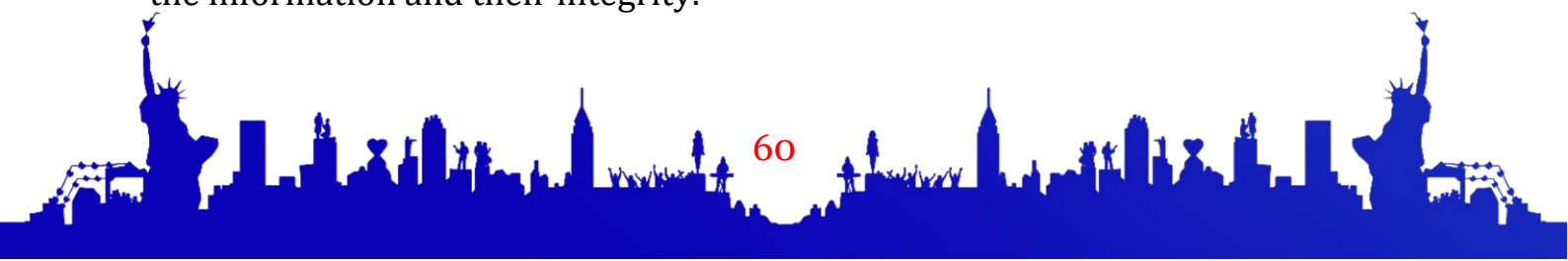
Empirical - gaining knowledge through the senses.

Cognitive – a technology for expanding the horizons of knowledge about the world around us.

Heuristics is a system of teaching by asking leading questions, developing in students purposeful creative thinking, which has a creative and exploratory nature.

Inversion is the study of information from different sides, the formation of a system of thinking that has the property of substitution.

Integrative – determining the only correct conclusion based on the integrity, interconnectedness of the infinite number of small parts that make up the information and their integrity.





Adaptive - adaptation to the analysis of information and the process of its use, achieving the expected result based on adaptation.

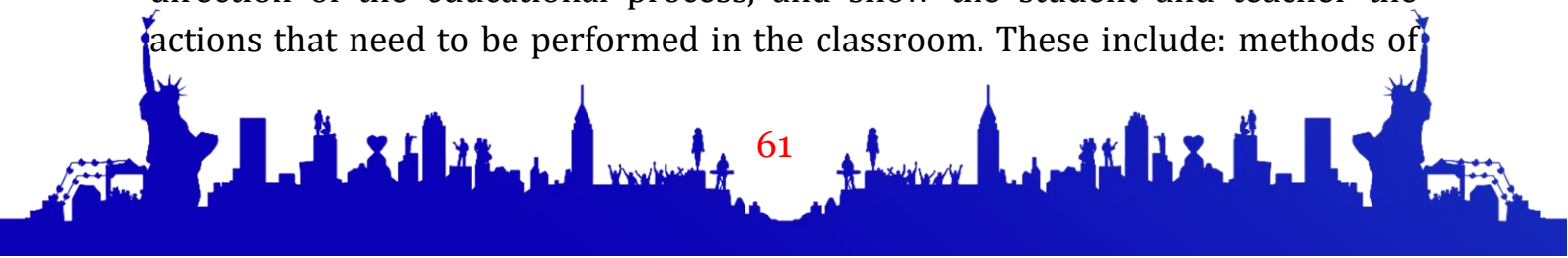
Inclusiveness is the organization of the educational process on the basis of equality in the interaction between teacher and student [2, p. 16].

At each stage of the process of developing design competencies among future teachers in the subject of technology, it is necessary to use various methods: story, conversation, lectures, perform problem-based exercises and work assignments, use educational games, organize discussions, encouragement and reprimands in the educational process, teach educational material problem-based, conduct a problem conversation, research, inductive and deductive discussions, work independently with a book, use computers in education, oral questioning, written independent work, test work.

In classes in the special disciplines "Design and modeling of garments", problem situations were used so that future teachers had a complete understanding of the subject. For example, when a student is asked to explain how to take into account the properties of soda when creating patterns for home clothing from garments, he will not only need to create a model of the item, but also learn information about the human body. Because he will need to create a model that will fit the body.

In the process of practice, it was noticed that future teachers in the subject of technology, through a problem lesson, problematic question and questions in special subjects, teach them to reason independently, justify their thoughts and draw their own conclusions. In the process of developing design competencies among future teachers in the subject of technology, as practice shows, it is advisable to use problematic educational levels as stages of transition from reproductive to creative, design activities when performing design projects and creative tasks at various levels. Complexity, which fully reveals the cognitive abilities of future teachers, develops the ability to independently see problems, formulate and prove them, and apply knowledge in practice.

A feature of the training is the use of heuristic methods in organizing the process of effective creative thinking. These are ways of joint activity of students and teachers in the educational process, with the help of which the acquisition of knowledge, skills and abilities is achieved, the worldview of students is formed, and project competencies are developed. Heuristic teaching methods determine the nature of the interrelated activities of the teacher and students, show the direction of the educational process, and show the student and teacher the actions that need to be performed in the classroom. These include: methods of





logical thinking, discussion methods, dialogues, various didactic games, etc. Heuristic methods, included in the general system of intellectual values, serve as an essential component in the development of design competencies and creative abilities of future teachers in the subject of technology, in particular, such a component as creative thinking.

Currently, the use of information technology in the process of developing project competencies among future teachers in the subject of technology gives good results. The goals of using information technology with students are not only to master the ways of searching for information and using it in work, but also to master the skills of working in graphic editors. In this case, the research method is used only if the level of student achievement is able to independently respond to the research work. Therefore, coursework in the specialty "Design and modeling of garments" is completed after passing this discipline.

When teaching special disciplines, the research method is used; questions and tasks are posed at the final stage of training, after the majority of students have solved the problem. Students with relatively slow learning are given tasks at their level of knowledge. Tasks are distributed depending on the individual capabilities of each student. The research method can be used not only when creating a new model, but also at the stage of its consolidation and analysis, that is, when carrying out project activities.

In modern conditions, there is a need to use not only information and data, but also advanced scientific achievements to develop effective technical solutions. The use of new information technology tools makes it possible to develop an economical technology for the expenditure of mental labor, quickly become familiar with new scientific and technical information, the latest information, introduce effective methods for searching and analyzing them, and eliminate the repetition of the task by another student. Therefore, it is necessary to organize independent work of students.

Future technology teachers will be shown how to use the global Internet system to accomplish a given task. When the conventional method of problem solving is carried out using written sources, it requires processing large amounts of information and therefore takes a lot of time. In this regard, when processing large volumes of information using an automated educational information system, a high level of creative activity is achieved, saving time spent on structural and according to functioning criteria scientific justification of technical decisions taken in the development of effective techniques and technologies. In this case, it is convenient to use the knowledge bank offered to





future technology teachers. A knowledge bank is developed as a set of information and data related to the implementation of a specific task and systematized according to the criteria of efficiency, consistency, and continuously enriched. At the same time, the utmost compactness of information aggregates is achieved due to the fact that the information provided is briefly and concisely expressed as far as possible, placed in the relevant knowledge. One of the features of the created knowledge bank is its continuous enrichment with new information. An increase in the volume of information to be analyzed in research activities requires the use of modern information technologies to facilitate the mental work of researchers.

In general, the choice of teaching methods depends on the level of training of future teachers in the subject of technology and the skills of the teacher. The methods determine the form of teaching, which should also contribute to the development of project competencies of future teachers.

#### **References:**

1. Педагогика: Учебное пособие для студентов педагогических вузов и педагогических колледжей / Под ред. П.И.Пидкасистого. – М.: Российское педагогическое агентство, 1996.
2. Йўлдошев Ж., Усмонов С.А. Педагогик технология асослари. – Т.: Ўқитувчи, 2004.
3. Н.А.Муслимов, Д.А.Норбутаева, "Development of designing creative competencies of future teachers of professional education", SCIENCE COMMUNITY: WEB OF CONFERENCES / KOMUNITAS SAINS:WEB KONFERENSI November-December, 2021 Djakarta, Indonesia.
4. Ибраимов Х. И. Креативность как одна из характеристик личности будущего педагога //Наука, образование и культура. – 2018. – №. 3 (27). – С. 44-46.

