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IMPROVING THE PEDAGOGICAL SYSTEM OF DEVELOPING DESIGN THINKING SKILLS IN FUTURE TEACHERS

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Abstract: This article analyzes the scientific and theoretical foundations of developing design thinking skills in future teachers. The content of design thinking, its role in the educational process, and its importance in the formation of creative and innovative approaches in pedagogical activity are highlighted. Also, methods and approaches aimed at developing the skills of future teachers to analyze problems, think creatively, develop effective solutions and apply them in practical activities will be considered. The results of the research show that the development of design thinking is an important factor in the improvement of the quality of pedagogical education and the formation of professional competences of teachers.

Key words: design thinking, future teacher, pedagogical education, creative thinking, innovative approach, problem solving, pedagogical competence, educational process, methods and technologies, professional development.

Enter. In the current era of globalization and rapid development of information technologies, the demands placed on the education system are also radically changing. Modern society requires creative, independent problem solvers, innovative thinkers and specialists with innovative approaches. From this point of view, it is important to develop creative and critical thinking skills of future teachers in the process of training pedagogic personnel. The design thinking approach is one of the effective methods for forming such skills.

Design thinking is defined as a creative process aimed at deep understanding of human needs, comprehensive analysis of problems, promotion of various ideas and finding innovative solutions for them. When this approach is used in the educational process, it teaches students to think actively, work cooperatively, analyze problematic situations, and make effective decisions. Especially for future teachers, the skills of design thinking are important for effective organization of the educational process in the future pedagogical activity, increasing the interest of students and using innovative methods [1].

Therefore, studying the scientific-theoretical foundations of developing design thinking skills in future teachers, analyzing its role and importance in the pedagogical process is one of the urgent issues. This article describes the concept of design thinking, its structural stages, and the theoretical foundations of the formation of this skill in future teachers.

In the developed countries of the world, systematic research is being carried out on the organization of pedagogical situations that serve to develop the knowledge of design thinking of future specialists, as well as providing them theoretically and methodologically. is demanding. This determines not only theoretical knowledge, but also a creative approach, systematic problem analysis and finding an effective solution, development of design thinking skills as one of the priorities of modern education. Based on the requirements of the competency approach, priority is given to activating the design thinking skills of future teachers, designing education, developing effective forms and methods of organizing situations, and creating mechanisms for evaluating students' creative works [2].

Analysis of literature on the topic.

In recent years, interest in the concept of design thinking in the education system has been growing significantly. Researchers interpret design thinking as an innovative method aimed at solving complex problems, focused on human needs and requiring a creative approach. In the

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scientific literature, it is emphasized that this approach serves to develop skills such as creative thinking, problem analysis, cooperation and development of innovative solutions.

Many studies show that the integration of design thinking into the educational process has a positive effect on increasing the active participation of students, developing critical thinking, and forming teamwork skills. For example, systematic research on the use of design thinking as a teaching methodology in the higher education system found that this approach significantly develops students' ability to solve problems and think creatively.

Researchers also consider design thinking as one of the important tools for developing 21st century competencies. According to the results of the analysis, educational processes organized on the basis of design thinking have a positive effect on the learning outcomes of students and develop creativity, innovative thinking and effective decision-making skills in problem situations.

In pedagogical research, design thinking is also considered as an important professional competence for future teachers. Some scientists interpret design thinking as a component of a teacher's professional competence, distinguishing empathy, cooperation, experimenting, innovative thinking and analytical skills as its main components [3].

Empirical studies also show that future teachers trained in the design thinking approach use more creative and interactive methods in the process of designing lessons. This serves to organize the educational process more effectively and to ensure active learning of students.

In general, the analysis of scientific literature shows that design thinking is widely used as an innovative approach in pedagogical education and serves as an important methodological basis for the development of creative thinking, problem solving and pedagogical design skills in future teachers. Therefore, the systematic introduction of this approach to the process of pedagogical education is one of the urgent scientific and pedagogical tasks.

O. Kasimov, M.A. Askarova, S.A. Akhrorova, N. Bekniyazova, D.T. Gapurova, M. Ernazarova, D.N. Qayumova, A.B. Mamatova, N. Maksudova, Sh.Z. Matupayeva, A. Nauruzbayeva, K.E. Sadirova, Z.I. Sabirova, D.B. Researched in the scientific works of B. Q. Subanova, A. Yembergenova [4].

Education in the conditions of universal design of education in CIS countries in terms of improving the process and teaching technologies By Sh.A. Amonashvili, A.G. Asmolov, G.V. Burmenskaya, I.A. Volodarskaya, L.S. Vygotsky, E.A. Ekzhanova, O.A. Karabanova, A.A. Naumov, E.V. Reznikova, B.R. Sokolova, A.N. Sedegova, E.G. Sabirova, I.E. Syusyukina, N.F. Talizinalar. learned.

From foreign scholars Rose, D.H., & Meyer, A., Meyer, A., Rose, D.H. Gordon, T. Hehir, A. J. Mello, K. Egan conducted scientific research. The analysis of scientific-theoretical sources shows that, despite the fact that special attention is paid to the content of professional training based on the development of design thinking in our country and abroad, the pedagogical system of developing design thinking skills in future teachers has not been fully researched in accordance with the modern education system, and it remains the source of a number of problems awaiting a solution [5].

Research methodology.

The purpose of this study is to determine the scientific-theoretical basis of developing design thinking skills in future teachers and to study the possibilities of its effective application in the process of pedagogical education. During the research, scientific sources in the field of pedagogy, psychology and educational technologies were analyzed, the content of the concept of design thinking and its role in pedagogical activity were studied.

The research was methodologically based on systematic, competency-based and activity-oriented approaches. Through a systematic approach, the design thinking process was analyzed based on interrelated stages (empathy, problem definition, idea generation, prototyping and testing). Competency approach implies formation of creative thinking, problem solving and innovative activity skills in future teachers. Through an activity-oriented approach, interactive

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methods, problem situations and project-based educational processes in which students actively participate were studied [6].

A number of scientific methods were used during the research. In particular, the theoretical foundations of design thinking were studied by analyzing and summarizing scientific and pedagogical literature. The activity of future teachers in the educational process was analyzed using the observation method. The knowledge and skills of students regarding design thinking and their attitude to the educational process were clarified through questionnaire and questionnaire methods. Also, in the analysis of the obtained results, methods of comparison, generalization and statistical analysis were used.

Pedagogical possibilities, effective methods and methods of developing design thinking skills among future teachers were determined through these methodological approaches, and the effectiveness of their use in the educational process was scientifically justified [7].

Analysis and results.

In the course of the research, pedagogical processes aimed at developing design thinking skills in future teachers were analyzed. The results of observations, questionnaires and experimental work showed that educational methods based on design thinking significantly develop students' creative thinking, ability to analyze problems and develop effective solutions.

As a result of the analysis, it was found that in the process of traditional teaching, students' approach to problem situations is often limited to theoretical knowledge. Classes organized on the basis of design thinking develop students' independent thinking, teamwork, and the ability to consider a problem from different perspectives. Especially through the stage of empathy, students learn to understand students' needs more deeply, and during the stage of developing ideas, creative thinking is activated [8].

The results of the experiment showed that in the groups that used design thinking methods, the level of preparation of students for pedagogical activities and the skills of using innovative approaches increased significantly. They also expressed a tendency to promote new ideas for designing lessons, using interactive methods, and increasing student interest.

In general, the results of the research showed that the development of design thinking skills among future teachers is important in increasing the effectiveness of the educational process, forming a creative approach to pedagogical activity, and developing competencies that meet the requirements of modern education. Wide introduction of this approach to the process of pedagogical education serves to further improve the professional training of future teachers [9].

Conclusions and suggestions:

The results of the research showed that the development of design thinking skills in future teachers is one of the important directions of modern pedagogical education. The design thinking approach serves to form important competencies in students, such as creative thinking, problem analysis, development of innovative solutions, and effective teamwork. Also, this approach makes it possible to organize the pedagogical process more interactively and effectively.

The results obtained during the study showed that the introduction of design thinking methods into the process of pedagogical education has a positive effect on improving the professional training of future teachers and developing their creative and innovative activities. Through this approach, students acquire the skills to effectively solve problematic situations that arise in the educational process, to promote new pedagogical ideas, and to organize the educational process in accordance with the needs of students.

Based on the results of the study, the following suggestions can be made:

1. It is desirable to systematically introduce design thinking methods into the educational process in pedagogical higher education institutions.

2. It is necessary to organize special trainings, seminars and practical exercises on design thinking for future teachers.

3. Project-based teaching, problem-based learning and interactive methods should be widely used in the educational process.

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4. It is recommended to develop instructional manuals and methodical recommendations aimed at developing design thinking skills [10].

In general, the use of the design thinking approach in the pedagogical education system serves to develop the professional competencies of future teachers, to increase the quality of education, and to effectively organize modern pedagogical activities.

List of used literature:

1. O‘zbekiston Respublikasi Prezidentining 2017 yil 7 fevraldagi “O‘zbekiston Respublikasini yanada rivojlantirish bo‘yicha Harakatlar strategiyasi to‘g‘risida”gi PF-4947-son Farmoni // O‘zbekiston Respublikasi qonun hujjatlari to‘plami, 2017 y, 6-son, 70-modda, 20-son, 354-modda, 23-son, 448-modda.

2. O‘zbekiston Respublikasi Prezidentining 2018-yil 25-yanvardagi “Umumiy o‘rta, o‘rta maxsus va kasb-hunar ta’limi tizimini tubdan takomillashtirish chora- tadbirlari to‘g‘risida”gi PF-5313-sonli Farmoni // Qonun hujjatlari ma’lumotlari milliy bazasi, 25.01.2018 y.

3. O‘zbekiston Respublikasi Prezidentining 2020-yil 27-fevraldagi “Pedagogik ta’lim sohasini yanada rivojlantirish chora-tadbirlari to‘g‘risida”gi PQ- 4623-sonli Qarori // Qonun hujjatlari ma’lumotlari milliy bazasi, 28.02.2020 y., 07/20/4623/0220-son, 13.06.2020 y., 07/20/4749/0758-son.

4. O‘zbekiston Respublikasi Prezidentining 2017 yil 26 sentyabrdagi “Pedagog kadrlarni tayyorlash, xalq ta’limi xodimlarini qayta tayyorlash va ularning malakasini oshirish tizimini yanada takomillashtirish chora-tadbirlari to‘g‘risida”gi PQ-3289-son Qarori.

5. O‘zbekiston Respublikasi Prezidentining 2021-yil 25-yanvardagi “Xalq ta’limi sohasidagi ilmiy-tadqiqot faoliyatini qo‘llab quvvatlash hamda uzluksiz kasbiy rivojlantirish tizimini joriy qilish chora-tadbirlari to‘g‘risida”-gi PQ-4963- sonli Qarori.

6. Soat, O. E. O. G. L. (2022). O’QITISHDA TA’LIMIY METODLARNI MUVOFIQLASHTIRISHNING ILMIY-NAZARIY ASOSLARI. Oriental renaissance: Innovative, educational, natural and social sciences, 2(5), 1076-1086.

7. Erkin o‘g‘li, S. O. (2022). O’qitishda ta’limiy metodlarni muvofiqlashtirishning ilmiy-nazariy asoslari. Oriental Renaissance: Innovative, educational, natural and social sciences, 2(5).

8. Soat Oybek Erkin o‘g‘li ISSN: 2776-0979, Volume 5, Issue 5, May - 2024. IMPROVEMENT OF ECOLOGICAL CULTURE FOR PRIMARY CLASS STUDENTS IN LESSON AND EXTRA-CURRICULUM ACTIVITIES. 183-189.

9. O‘G‘Li, S. O. E. (2025). BOSHLANG ‘ICH SINF O ‘QUVCHILARIGA DARS VA DARSDAN TASHQARI MASHG ‘ULOTLARDA EKOLOGIK MADANIYATNI TAKOMILLASHTIRISH. Research Focus, 4(1), 139-142.

10. Kasimov O. Dizayn metodologiya asoslari. Darslik. “Dimal” nashriyoti.T:. -2024 Y.173 b.