



UDK: 371.3:378.

G'anisher NAFASOV,
GulDU "Matematika" kafedrasida dotsenti, PhD
E-mail: gnafasov87@gmail.com
Madamin ANORBAYEV,
GulDU "Matematika" kafedrasida o'qituvchisi
Qobul NAZIROV,
GulDU "Matematika" kafedrasida o'qituvchisi

Nizomiy nomidagi TDPU professori, p.f.d. B.S.Abdullayeva taqrizi asosida

BO‘LAJAK MATEMATIKA O‘QITUVCHILARNI LOYIHALAB O‘QITISH JARAYONIDA MATEMATIK KOMPETENTLIGNI RIVOJLANTIRISH

Annotatsiya

Mazkur maqolada bugungi kunda matematika darslarida bo'lajak matematika o'qituvchilarni loyihalab o'qitish jarayonida matematik kompetentligni rivojlantirish o'quv mashg'ulotlarini yoritilib ayni vaqtda ta'limning zamonaviy tendentsiyalar jarayonida matematika darslarida talabalarni loyihalab o'qitishning nazariy asoslari mazmuni bayon etlgan hamda tajriba sinov asosida olingan natijalarning samaradorlik darajasi anqlangan.

Kalit so'zlar: loyihalab o'qitish ko'nikma, matematik kompetentlig, mantiqiy tafakkur, iste'dod, innovatsiya, ijodkorlik, tanqidiy fikrlash, muammolarni hal qilish.

РАЗВИТИЕ МАТЕМАТИЧЕСКОЙ КОМПЕТЕНТНОСТИ В ПРОЦЕССЕ ПРОЕКТИРОВАННОГО ОБУЧЕНИЯ БУДУЩИХ УЧИТЕЛЕЙ МАТЕМАТИКИ

Аннотация

В этой статье сегодня развитие математической компетентности в процессе проектирования и обучения будущих учителей математики на уроках математики при освещении учебной деятельности разъяснено содержание теоретических основ проектирования и обучения учащихся на уроках математики в процессе современных тенденций образования и определен уровень эффективности полученных результатов на основе экспериментальной проверки.

Ключевые слова: дизайнерские и педагогические навыки, математическая компетентность, логическое мышление, талант, новаторство, креативность, критическое мышление, решение проблем.

DEVELOPMENT OF MATHEMATICAL COMPETENCE DURING DESIGNED TRAINING OF FUTURE MATHEMATICS TEACHERS

Annotation

In this article today development of mathematical competence in the process of designing and training future mathematics teachers in mathematics lessons when covering educational activities, the content of the theoretical foundations of designing and teaching students in mathematics lessons in the process of modern educational trends is explained and the level of effectiveness of the results obtained is determined on the basis of experimental testing.

Key words: design and teaching skills, mathematical competence, logical thinking, talent, innovation, creativity, critical thinking, problem solving.

Introduction. Today, in the practice of the educational system of developed countries, more and more attention is paid to the creation of educational process projects based on modern pedagogical technology and its principles. A number of effective works are being carried out in this direction in our country. However, it should also be noted that the educational process should be built and taught on the basis of modern pedagogical technologies and their principles. At the same time, there are certain problems in this area [11].

Let's analyze two meanings of the word "project": a project is the result of a planned activity and a project is a form of organizing the activities of people in interaction; we rely on both of these values. An important and important feature of planning is working with the future. On the one hand, it is clear that design is characterized by everything that concerns future work, and above all, a high degree of uncertainty and predictability.

The future mathematics teacher is the only specialist in a general secondary school who has the knowledge and methods of teaching the basics of all academic subjects at this stage of school, and not just one or two related subjects. Every

day he performs the narrow role of 3-4 subject specialists, so the future mathematics teacher has to synthesize methodological knowledge in individual subjects.

Literature review. According to Professor M. Tajiev, Pedagogical technology is an educational event organized on the basis of a specific project, considering the educational process aimed at a specific goal as a complex, and applying a technological approach to the educational process that guarantees the results of this goal [14; 59-r]

According to F.Sh. Alimov, "competence" includes good training in a certain field, knowledge in this field, efficiency and competence. There are different opinions on this matter in the scientific literature. N.V. Samarina notes that although the concepts of "competence" and "competence" come from the same root, they do not mean the same thing [13].

This rule served as the basis for dividing the methodological field of didactic activity of future mathematics teachers. A.A. Verbisky adds components to the complex of important didactic components of a teacher that have not yet played a decisive role:

Research Methodology high level of general teacher culture, psychological, pedagogical and methodological competence.

The program for analyzing didactic and methodological competence consisted of the following sections:

determine the uniqueness of the didactic activity of the future mathematics teacher, determine the conditions for its formation;

analysis of the content and state of the functional and structural components of the didactic and methodological competencies of future mathematics teachers.

The identified functions in didactic and methodological competence are divided into three directions: motivational-theoretical, practical and research-reflective. Let us dwell on the analysis of these directions (Table 1.):

Table 1.

The structure of the didactic and methodological competence of the future mathematics teacher

Motivational-theoretical field	Application area	Research is a reflexive field
Motivational-value component. Cognitive component	Motivational-value component. Cognitive component	Motivational-value component. Cognitive component
Content and operational component	Operational component	Operational component
Reflective-evaluative component	Reflective-evaluative component	Reflective-evaluative component
Individual creative component	Mathematiciancomponent	Speedcomponent

We highlight the cognitive component in all areas of didactic and methodological competence. Cognitive (from Latin - cognitio) - knowledge. Based on the cognitive theory of personality [2], each person builds a system of "personal structures" of cognition of varying complexity and content,

through which he evaluates the outside world, other people and himself. A person's behavior is determined by his knowledge, that is, his awareness. The cognitive component includes (see Table 2):

Table 2.

Composition of cognitive components

Motivational-theoretical field	Application area	Research is a reflexive field
know the technologies for solving educational and pedagogical problems, know the essence of the concepts of "pedagogical culture", "pedagogical competence", etc.; guidelines for knowledge about pedagogical technology, its essence, structural components; know the requirements for the design and construction of educational technologies; knowledge of a certain technology as the implementation of a psychological and pedagogical idea	know the age and individual characteristics of younger schoolchildren; know about the requirements and features of conducting exams for young schoolchildren; know the requirements of educational standards for individual subjects of primary education; know about innovation processes; know about the patterns of design and organization of the educational process; knowledge of pedagogical communication and norms of behavior	know the main characteristics of the methodology and technology of pedagogical research; knowledge of methodologies and methods of pedagogical research; know about the teacher's design and forecasting activities

In pedagogy, the task of the teacher's knowledge system - as a methodological basis for didactic activity and as a direct indicator of practical behavior - should be defined in two ways.

Analysis and results In general, in modern conditions, at each stage of education, "what can be taught (general content) and what needs to be done for this?" and "who to teach, what to teach (specifically in each specialty), why to teach (goal), how to teach (method, form, tool, technology)?" effectively addressing these issues is a pressing issue facing education today.

These days, "what should be taught?" and not "what can be taught and how should it be done?" Apparently, the approach to organizing the educational process plays a key role in the modernization of mathematics education.

For example, Brainstorming, General brainstorming, Brainstorming, 6x6x6 method, Cluster method, Decision tree method (decision-making technology), Experimental learning cycle [1], "Black box" method, "Venn diagram" strategy

(method), "Zigzag" strategy (the "Insert Strategy" method, role-playing and business games, "School Friendship Court" and the "Brilliant-Brilliant" method);

computer, multimedia, blackboard, slide, table and other visual materials used by the teacher in the educational process;

additional questions for discussion; criteria and indicators for assessing student performance.

In the formation of an innovative model of educational technology, the main place is occupied by traditional and student-oriented technologies for teaching subjects[3].

In psychology and pedagogy, there are different approaches to distinguishing between different pedagogical values[16], classify them taking into account research tasks and the real object of study. The authors note that values can be regrouped in accordance with the goals and objectives of didactic activity (see Table 3):

Table 3.

Composition of motivational and value components

Motivational-theoretical field	Application area	Research is a reflexive field
interest in didactic activities that reflect the individual's need for knowledge and mastery of new ways of activity; desire to achieve achievements in educational and didactic activities; desire for recognition of success in mastering theoretical and practical knowledge necessary for self-realization in educational and pedagogical activities; motives of social identification; personal and respectful motives; motives of knowledge; Values and goals of the "I-didactics" concept.	motives for didactic and creative achievements; values as a means of implementing pedagogical thinking, concepts of pedagogical communication and behavior, pedagogical technologies; value attitude to the construction of the pedagogical process; the importance of the goals of didactic activity; "activity concept", consisting of ideas about the types and tasks of didactic and pedagogical activities, pedagogical technology, as well as ideas that define systemic, integrated approaches to organizing the pedagogical process.	motives of knowledge; sense of discovery, interest in pedagogical research; value attitude towards research in teaching activities; the importance of accepting and understanding the innovative components of didactic activities; value approach to the expert model

pay attention to the priority development of the active component in its content and define the concept being studied as "a complex, multifaceted psychological and pedagogical work aimed at carrying out the practical actions of the future teacher from the point of view of didactic competence", "qualitative characteristics of the future teacher's level of proficiency in didactic activities" [17], "the

set of skills of a teacher as a subject of pedagogical influence with the separate structuring of scientific and practical knowledge for solving pedagogical problems"[18].

Individual activity style influences the decision-making process on the introduction of educational technology or its perception. This, in turn, shows that it is necessary to form and develop an individual style in higher education[10].

During the formation of the individual creative component, it is assumed that the future teacher recognizes himself as a certain creative individuality, identifies his didactic and personal qualities that require further improvement and correction, and connects his individuality with a certain pedagogical technology. holds

Conclusion. The role of an innovative model of educational technology in organizing the activities of a future mathematics teacher

is shown. Widespread introduction of modern pedagogical technologies into our educational system: treating each student as an individual, achieving the development of independent critical thinking, creating a clear basis for the development of independent learning, taking into account the characteristics of each student and his personal capabilities. creates opportunity.

REFERENCES

1. Nafasov, G. (2019). Model of Developing Cognitive Competence at Learning Process Elementary Mathematics. *Eastern European Scientific Journal*, (1).
2. Nafasov, G. A. (2023). Determination of the Low Pressure Zone of the Water Conducting Tract of Reservoirs. *Genius Repository*, 25, 28-32.
3. Abdullayeva, B. S., & Nafasov, G. A. (2019). Current State Of Preparation Of Future Teachers Of Mathematics In Higher Education Institutions. *Bulletin of Gulistan State University*, 2020(2), 12-17.
4. Nafasov, G., Kalandarov, A., & Xudoyqulov, R. (2023). DEVELOPING STUDENTS' COGNITIVE COMPETENCE THROUGH TEACHING ELEMENTARY MATHEMATICS. *Евразийский журнал технологий и инноваций*, 1(5 Part 2), 218-224.
5. Kengash, J., & Nafasov, G. A. (2023). On the Self-Similar Solution of The Problem of Unsteady Movement of Groundwater Near a Reservoir in the Presence of Nonlinear Evaporation. *Genius Repository*, 22, 37-41.
6. Nafasov, G., Xudoyqulov, R., & Usmonov, N. (2023). DEVELOPING LOGICAL THINKING SKILLS IN MATHEMATICS TEACHERS THROUGH DIGITAL TECHNOLOGIES. *Евразийский журнал технологий и инноваций*, 1(5 Part 2), 229-233.
7. Nafasov, G. (2019). Model of Developing Cognitive Competence at Learning Process Elementary Mathematics. *Eastern European Scientific Journal*, (1).
8. Abdurashidovich, N. G. (2021). Theoretical Basis Of Development Of Cognitive Competence Of Students Of Higher Education Institutions In The Process Of Teaching Elementary Mathematics. *European Journal of Molecular and Clinical Medicine*, 8(1), 789-806.
9. Abdurashidovich, N. G., Muzaffarovich, U. N., Qosim o'g'li, N. Q., & Olimjon, D. (2023). Design in the process of teaching mathematics and its teaching methodology. *Genius Repository*, 25, 23-27.
10. Abdurashidovich, N. G. REQUIREMENTS FOR THE SELECTION OF CONTENT FOR HEURISTIC TASKS IN THE TEACHING OF ELEMENTARY MATHEMATICS TO FUTURE MATHEMATICS TEACHERS.
11. Nafasov, G. A. (2023). Determination of the Low Pressure Zone of the Water Conducting Tract of Reservoirs. *Genius Repository*, 25, 28-32.
12. Abdurashidovich, N. G. REQUIREMENTS FOR THE SELECTION OF CONTENT FOR HEURISTIC TASKS IN THE TEACHING OF ELEMENTARY MATHEMATICS TO FUTURE MATHEMATICS TEACHERS.
13. Alimov Sh.A. and others. Algebra (textbook for 7th grade of UO'T schools). – T.: "Teacher" 2017. – 192 p. – page 14
14. Тожиев М., Зиёмухамедов Б., Усмонов Б.Ш., Хуррамов А.Ж. Ўқитувчи фаолиятини лойиҳалаш. Монография / – Т.: «TURON-IQBOL», 2017. – 246 б.
15. Verbitsky A.A. Active learning methods in high school: A contextual approach. - M., 1991. - 285 p.
16. V.A. Slastenin, . / 1993. - №1. - S. 53-57 94. Pedagogy: Proc. skill for studs. ped. fly plant
17. Matyash N.V. Self-education of professional competence of a future teacher: Abstract. diss.... cand. ped. science - Bryansk, 1994. - 16 p
18. Kuzmina N.V. Teacher's pedagogical skill as a factor in the development of secondary education Teacher's properties // Questions of psychology, 1984. - No. 1. - P. 20-26