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Methoden zur Steigerung der Informations- und Kommunikationskompetenz zukünftiger Lehrkräfte im Kontext digitaler Bildung

Mamutova G.Sh.
Staatliche Pädagogische Universität Taschkent, benannt nach Nizami

Zusammenfassung: Der Artikel diskutiert die Hauptrichtungen der Ausbildung von Informations- und Kommunikationskompetenzen angehender Lehrkräfte. Die pädagogischen Rahmenbedingungen, Prinzipien und Ansätze bei der Ausbildung von Informations- und Kommunikationskompetenzen angehender Lehrkräfte sind wissenschaftlich fundiert.
Schlagworte: Individualität, digitale Bildung, pädagogische Tätigkeit, berufliche Kompetenz, berufliche Tätigkeit, angehende Mathematiklehrer, Rollenspiele**.**

Methods of increasing information and communicative competencies of future teachers in the context of digital education

Mamutova G.Sh.
Tashkent State Pedagogical University named after Nizami

Abstract: The article discusses the main directions of the formation of information and communication competencies of future teachers. The pedagogical conditions, principles and approaches in the formation of information and communication competencies of future teachers have been scientifically substantiated.
Keywords: individuality, digital education, pedagogical activity, professional competence, professional activity, future mathematics teachers, role-playing games.

In the context of the modernization of the domestic education system, great responsibility falls on pedagogical science, especially on those areas of research that are associated with the search and development of more advanced teaching methods, techniques and methods of student development. Modern society is determined by the need to move to a new level of education, as a result of which a university graduate will be able to respond to different life situations, independently formulate interests and realize opportunities. The state educational standard of the new generation of the Republic of Uzbekistan is aimed at ensuring the individual development of all students. The problem of the formation of a personality that meets the requirements of a democratic civil, information society, an innovative economy is included in the list of priorities of state policy and acts as a guarantor of achieving the socially desired result of the graduate's development.

Currently, the gap between pedagogical theory and pedagogical practice is increasing, which leads to a significant contradiction between them. The existing categorical apparatus is unable to describe the processes occurring in the practice of education. The new content of this apparatus should be a synthesis of the didactic theory with the corresponding technology, which in itself does not exclude the further development of the "high" didactic theory. Moreover, the role of this theory in modern conditions is only increasing, since it is designed to become the basis of a particular technology.

Thus, the relevance of the topic is due to the need to determine the main professional competencies in the preparation of future mathematics teachers for the subsequent successful implementation of its basic principles in the educational process, the need to develop additional programs and guidelines for teachers.

In pedagogical research, the problem of information and communication competence is given one of the leading places. These problems are dealt with by domestic and foreign scientists, such as

I.A. Zimnyaya, V.I.Baydenko, V.D.Shadrikov, etc. The researchers are faced with the question of determining the set of competencies that a graduate of a higher educational institution should have.

British psychologist J. Raven reveals competence as a specific ability necessary to effectively perform a specific action in a specific subject area, which includes highly specialized knowledge, a special kind of subject skills, ways of thinking, as well as an understanding of responsibility for one's actions [3; 6].

In the course of the study, we found that the basic educational competencies are as follows:

1. General cultural competence. Includes a range of questions on the content and characteristics of national and universal culture, spiritual and moral foundations of human life.

2. Educational and cognitive competence. This is a set of student competencies in the field of independent cognitive activity, including elements of logical, methodological, general educational activity, correlated with real cognizable objects.

3. Value-semantic competence. This competence reflects the elements of the worldview aimed at the formation of the axiological orientation of the student in the system of social relations, his ability to see and understand the world around him, to orient himself in it. The individual educational trajectory of the student and the program of his life as a whole depend on this competence.

4. Communicative competence. Includes knowledge of the required languages, ways of interacting with people around and distant people and events, skills in working in a group, possession of various social roles in a team.

5. The competence of personal self-improvement is aimed at mastering the methods of physical, spiritual and intellectual self-development, emotionally self-regulation and self-support.

6. Information competence. With the help of real objects (TV, telephone, fax, computer, printer, modem) and information technology (audio-video recording, e-mail, media, Internet), the ability to independently search, analyze and select the necessary information, organize, transform, save and transfer it. This competence provides the skills of the student's activity in relation to the information contained in academic subjects and educational areas, as well as in the surrounding world [1; 35-36].

Competence in the field of education is one of the priority directions of modernization of modern education, the aim is to create new knowledge, new socially significant experience in the formation of social and professional space in society. Solving the set tasks requires a qualitatively new approach to the professional training of future teachers.

Mathematics teachers have the following tasks:

- to provide quality training in mathematics;
- to teach to apply the acquired basic knowledge of mathematics in the process of studying natural science disciplines;
- to stimulate and increase the motivation for mastering knowledge in mathematics based on the student's personal success;
- to promote the development of information and communication competencies [4; 23].

The training of future teachers should be based on mastering the relevant competencies, which are the basis, the basis of higher education. The appeal to competencies is caused by a number of circumstances:

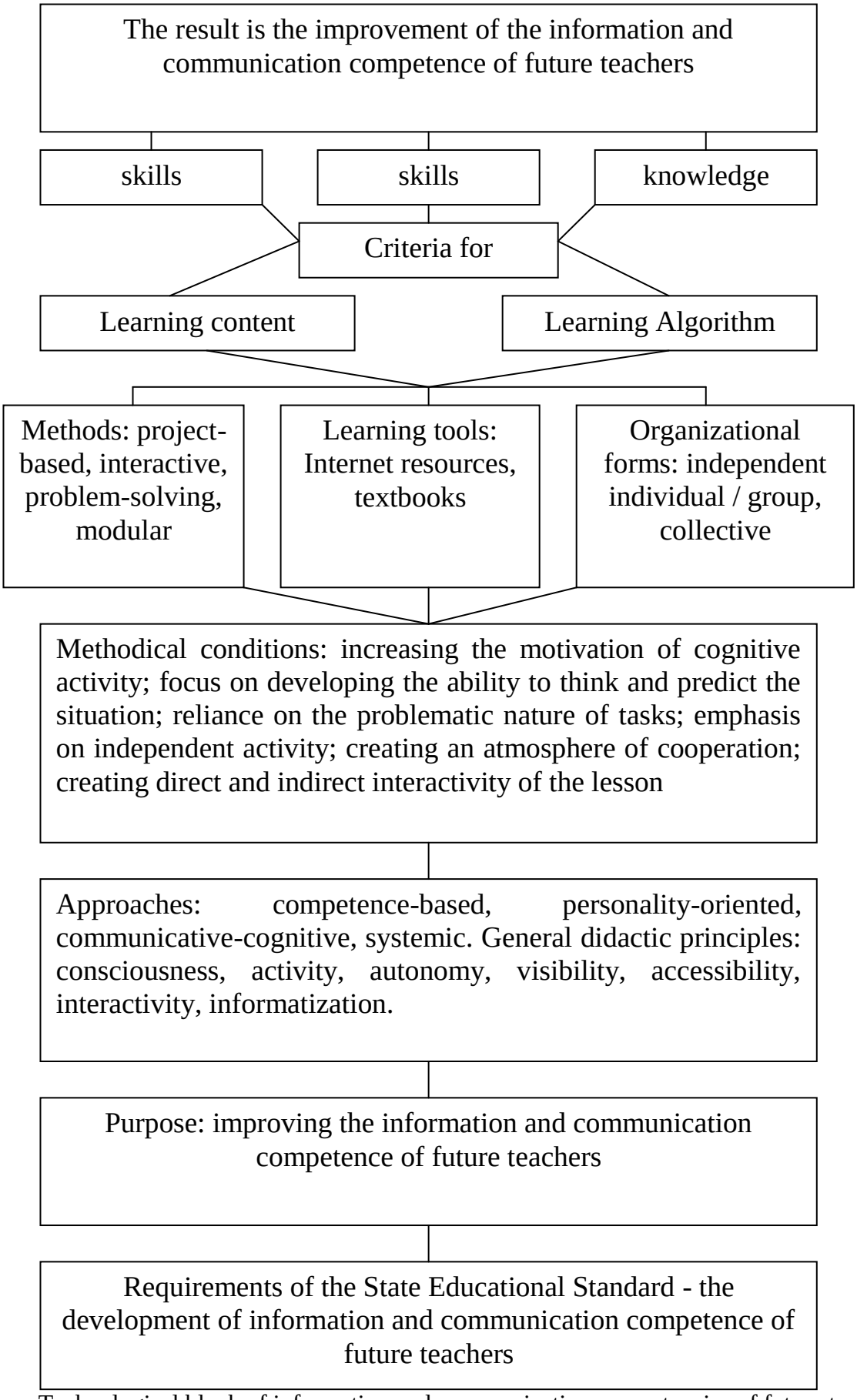
- the assessment of the training of future teachers should be based on the qualitative results of the pedagogical process and pedagogical activity;
- the training of competent future teachers should proceed from the requests of production, the consumer of the products produced by the educational institution;
- the training of future teachers should be professionally oriented, based on personal potential, with the obligatory consideration of the requirements of innovative technologies;
- a tiered approach to the training of future teachers is needed so that he can adapt to rapidly changing conditions of life, developing technologies, to changing types of professional activity;

- the study of the readiness of future teachers at the proper level is carried out based on the formation of professional competencies, their quality [5; 113].

The effectiveness of the educational process in the implementation of information and communication competencies is ensured, in our opinion, by the implementation of the basic principles of learning:

- consciousness, activity of students during the lesson;
- visibility, used as a teaching tool and a means of knowledge;
- strength, i.e. preservation of educational material in the memory of students and the possibility of its application in various situations;
- the availability of educational material and its feasibility;
- taking into account the individual psychological characteristics of the personality of students;
- taking into account adaptation processes - the processes of human adaptation to changing environmental conditions and life;
- interdisciplinary coordination, implemented during the coordination of topics of various disciplines;
- continuity of training;
- professional orientation of training, taking into account the future specialty;
- communicative activity of students during training.

In the course of the study, we have developed a technological block of information and communication competencies of future mathematics teachers (1-fig.).



1-figure. Technological block of information and communication competencies of future teachers

With all the variety of teaching technologies, the implementation of information and communication competencies remains with the teacher. "Professional skill" - as a social concept. Most scientists describe this concept as the highest level of professional training of a bachelor, the core of which is competence. Professional competencies include:

- professional activity, special professional component;
- the social component, including joint, collective professional activity, the activity of a bachelor;
- a personal component associated with the realization of the potential of a bachelor, his self-expression, self-development;
- an individual component, including individual development within the profession [2; 253].

Our experience of working with future teachers in the implementation of information and communication competencies allows us to highlight the use of the following teaching technologies:

- reproductive technology of teaching - this technology is economical, makes it easier for students to understand complex material, provides management of the educational process, but it weakly develops the thinking potential of students, has little opportunities for individualization and differentiation of the educational process;
- information technologies - when giving lectures, the teacher uses modern multimedia methods of presenting the material, which contributes to the written fixation of the perceived and revised educational text;
- learning technologies in cooperation - contribute to the formation of students' skills to work effectively together in temporary teams and achieve high-quality educational results; the development of students' personal qualities such as tolerance to different points of view and other behavior, responsibility for the results of joint work;
- technologies of communicative learning - the information and cognitive process arising in connection with the solution of educational tasks, involves, along with the search, selection, processing of information, its exchange between students as a subject of educational and cognitive activity;
- personality-oriented technologies - the formation of an active personality in the learning process, capable of independently building his educational and cognitive activities, creating partnerships between participants in the educational process, and fully revealing his personal potential.

The experience of universities that we have perfected in introducing learning technologies into educational practice allows us to assert that their use gives the following positive results:

- students are open to learning and are actively involved in relationships and cooperation with other participants in the educational process;
- get the opportunity to analyze their activities and realize their own potential;
- they can practically prepare themselves for what they will face in life and professional activity;
- can be themselves, not afraid to express themselves, make mistakes, provided that they are not condemned for this and do not receive a negative assessment.

It is important to understand the training technologies used should contribute to the formation of a competent specialist who meets all the requirements of the modern labor market.

Solving this problem, we decided to focus on role-playing games. This form of work includes a number of exercises.:

1) Role-playing exercises - here learners play their assigned roles. Requiring application of interpersonal skills. These situations include: solving disciplinary issues, conducting various interviews.

2) Case sudy - students are invited either individually or in small groups to find a solution to a problem situation.

3) Business games are conducted according to a scenario that is developed by the teacher in accordance with the topic and objectives of the lesson. Participants play out roles from real-life

situations, represent imitation of decision-making through collective discussion according to the rules set or developed by the participants of the game.

The use of role-playing games, in which we can both use one specific type of exercise, and combine several methods, allows students to apply the theoretical knowledge gained and thereby gain or reinforce the professional skills that are so necessary for them in real professional activity. These theoretical ideas about the effectiveness of role-playing games can be supported by practical observations.

The main advantage of using such a learning technology is the active participation of students, and the initiative for the implementation and use of the technology comes to a large extent from the students themselves.

The motivation of the individual to obtain professionally significant qualities, expressed in the formation of information and communication competencies, which the graduate of the university demonstrates in the labor market, is provided by the social and professional environment and the education system. The presence of all aspects of information and communication competence means that a person has reached maturity in his professional activities, cooperation and communication, which is characterized by the formation of an individual as future teachers with a social orientation and professional personality.

The most important goal of studying mathematical disciplines at a university is the formation of a mathematical culture, as one of the elements of the general culture of modern specialists.

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