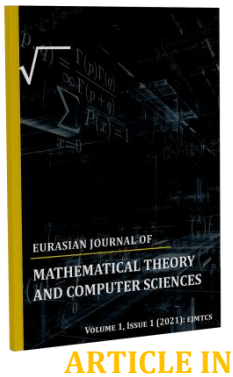
EURASIAN JOURNAL OF MATHEMATICAL THEORY AND COMPUTER SCIENCES
Innovative Academy Research Support Center
UIF = 8.3 | SJIF = 5.916 www.in-academy.uz



DEVELOPMENT OF LOGICAL COMPETENCE OF FUTURE ELEMENTARY SCHOOL STUDENTS

Yerejepova Venera Asenbaevna
Doctoral student of Korakalpok State University
13.00.02

https://www.doi.org/10.5281/zenodo.7861695

ARTICLE INFO

Received: 15th April 2023
Accepted: 24th April 2023
Online: 25th April 2023

KEY WORDS

Research competence, logical thinking, motivational component, technological component, mathematics, psychological and pedagogical research.

ABSTRACT

In the qualification requirements of the primary education field of the higher educational institution, the logical competence of the future primary education teacher is considered as a component that ensures the effectiveness of the primary competence and is included in the research competence. This scientific article analyzes such issues.

INTRODUCTION

As a criterion for the formation of the main components of logical competence in future elementary education teachers, the following was based:

- a positive attitude towards acquisition of logical competence (motivational component), acquisition of knowledge related to the field of logical activity (cognitive component), manifestation of basic logical skills (technological component);

- based on the analysis of psychological-pedagogical research, the following indicators of the main components of logical competence were determined and substantiated:

- understanding the initial importance of logical competence of future primary teachers and the need to master logical competence and use logical skills (motivational component);

- knowledge in the field of logical activities and their conscious application (cognitive component);

- independent and successful demonstration of basic logical skills in the performance of educational and professional tasks of a logical nature (technological component);

- on the basis of defined components of logical competence, their indicators and criteria descriptions corresponding to them, the formation of logical competence in future primary education teachers, to understand the importance of logical competence in the initial activity;

- existence of the need to acquire logical competence.

MATERIALS AND METHODS

Apply logical skills to solve problems that arise during the performance of various logical educational and professional tasks. Demonstrate basic skills related to the field of logic, perform logical educational and professional tasks of various levels of difficulty, acquire logical technology, analysis and application, comparison of obtained results and formation of

EURASIAN JOURNAL OF MATHEMATICAL THEORY AND COMPUTER SCIENCES
Innovative Academy Research Support Center
UIF = 8.3 | SJIF = 5.916 www.in-academy.uz

conclusions Motivational Logical competence Cognitive Technological the following levels were distinguished: non-standard thinking, continuous research, creativity.

Also, in the research, the pedagogical possibilities of interactive teaching methods ("Scientific discussion", "Innovative project", "Analysis of important problems") in the formation of logical competence of future primary education teachers have been determined [2].

Based on the conducted analysis, it was determined that the structure of logical competence formed in future primary education teachers consists of the following components: motivational, cognitive, technological (see Figure 1). The motivational component includes the system of motivational-valuable and emotional-emotional relations of future primary education teachers to the environment, existence, people, themselves and their personal capabilities.

RESULTS AND DISCUSSION

Based on the fact that the manifestation of competence can occur only in the process of activity during the research, the existence of an organic relationship between the concepts of competence and activity was substantiated, and it was concluded that "logical competence" is manifested in logical activity corresponding to its content. In the study, the following working definition was adopted for the researcher competence to be formed in the future primary education teacher. Logical competence is a set of sufficient knowledge, skills, abilities and personal qualities and individual abilities used in the process of logical activity [3].

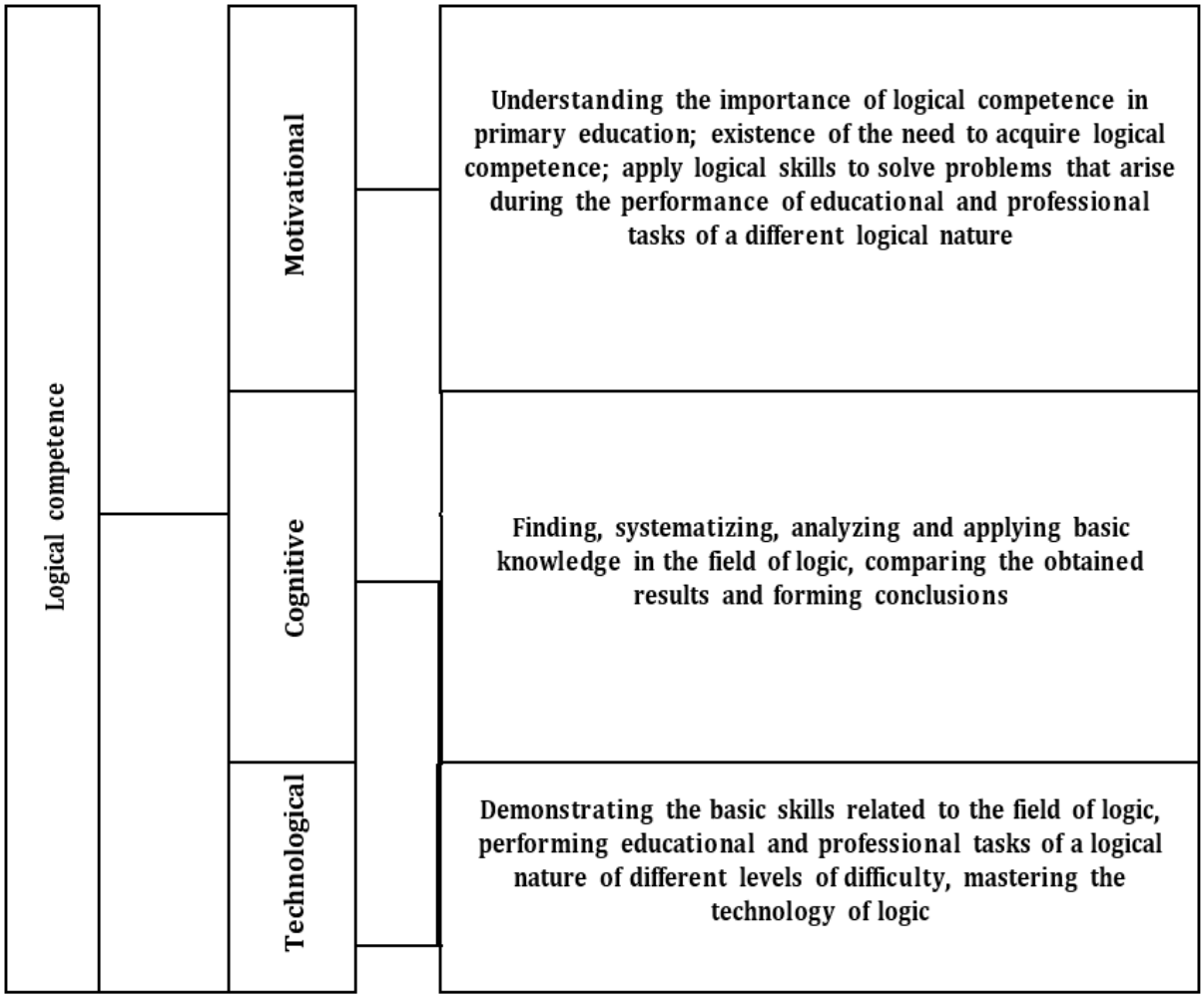


Figure 1. Structure of logical competence

This component of logical competence allows to demonstrate the need for cognitive activity, the ability to overcome cognitive barriers, as well as to determine their emotional relationships in scientific activity when organizing and conducting theoretical and empirical research. The cognitive component guarantees the formation of a scientific picture of the world in the mind of the future primary education teacher, equipping them with a dialectical approach to cognitive activity. For his logical activity, this is reflected in the following characteristics and features: ability to apply logical technology in practice; to feel the environment, ask questions, search for the foundations and causes of events, express one's point of view on the question or lack of understanding; analysis of received data and formation of conclusions. The technological component includes the following logical skills related to logical activities (targeting, problem solving, goal formulation, planning, data search and interpretation during research).

Relying on the stages of formation of logical competences of future primary education teachers and Based on P.Y.Galperin's theory of mental movements and the gradual formation of concepts, the following were distinguished as pedagogical conditions for the formation of logical competence in them [6]:

- directing logical competences to their logical activity, which allows them to understand and recognize the professional importance of logical competences;
- attracting students to their logical activities aimed at mastering the basic knowledge and skills in the field of logical activities;
- enriching the experience of logical activity, which ensures the strengthening and improvement of basic knowledge and skills in the field of logical activity.

"Logical Competencies in the Preparation of Future Primary Education Teachers for Professional Activity", which includes a set of problem-research cases, electronic educational resources and a special training course called "Methodology of forming logical competences in students", educational tasks of a logical nature it was decided to introduce the methodical guide named "formation methodology" into the process of teaching vocational pedagogy ("Professional pedagogy", "Pedagogical skill", "Pedagogy, Psychology").

In the formation of logical competences of future primary education teachers, the main attention was focused on the formation of skills to justify the progress and results of their logical activities, draw independent conclusions, and reflexively evaluate the results. The following principles were used to create didactic support for the formation of logical competences in future primary education teachers [7]:

✔ scientific;
✔ awareness and activity;
✔systematic and logical;
✔unity of theory and practice;
✔instructivity;
✔strength and thoroughness of mastering.

On the basis of these principles, the following teaching forms, methods, tools and stages of preparation were determined, which enable the effective implementation of the identified didactic conditions, encourage the methods and actions in this process:

a) forms of training: collective, group, individual;
b) teaching methods: "scientific discussion", "analyze actual problem" and "innovative project";
c) teaching tools: electronic educational resources, educational and professional
logical issues in nature,
g) stages of preparation:
- to interest future vocational education teachers in logical activities (professional motivation), orient them to logical activities;
- engaging in logical activities;
- Enriching logical activity experiences.

CONCLUSION

The use of interactive methods of education and electronic educational resources allows future primary teachers to successfully complete educational and professional tasks of a logical nature and develop logical competencies in their field of professional activity. In the process of formation of logical competences in the future teacher of vocational education, the following were taken as educational tools: a set of educational and professional tasks of a logical nature, project and selection tasks, tests of a logical nature. Educational and professional tasks, in turn, are grouped in the following four directions: logical, generating ideas, modeling by example, reflexive. The content and structure of logical competences served as a constructive basis for the formation of logical competences in future elementary education teachers.

References:

1. Turmatov J.R. Criteria for determining the level of development of students' logical skills // Vocational education. - Tashkent, 2012.
2. Turmatov J.R. Methodology of formation of logical competence of future vocational education teachers // News of UzMU. Scientific journal of the National University of Uzbekistan named after Mirzo Ulugbek. - Tashkent, 2018.
3. Turmatov J.R. The content and essence of preparing students for independent logic // Education, science and innovation. Spiritual-educational, scientific-methodical journal. - Tashkent, 2018.
4. Rahmatova F.A. Scientific-theoretical foundations of improving the mathematical thinking of future elementary school teachers // Monograph. - Tashkent: Science and Technology, 2017.
5. Rahmatova F.A. Priority directions of the development of mathematics // Problems of modern continuous education: innovation and prospects.
6. Proceedings of the international scientific conference. - Tashkent, 2018.
7. Rakhmatova F.A. Creation of problem-based learning in the field of creative information // Science and the world. – Volgograd, 2018.