

# NATURAL SCIENCE COMPETENCE AS A COMPONENT OF PROFESSIONAL TRAINING OF FUTURE PRIMARY SCHOOL TEACHERS

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**Introductions.** Today, the system of scientific knowledge about nature and society, which are integrally interconnected, is part of the harmonious development of the spiritual culture of mankind. That is why science competence is considered a necessary quality of the future primary school teacher, which ensures the performance of professional duties at a high level, taking into account the real needs of rapidly changing pedagogical practice.

**Aim.** The aim of the work is to review the content and structure of science competence as a component of professional training of future primary school teachers.

**Results and discussion.** A review of the scientific literature on the subject allows us to define the natural science competence of the future primary school teacher as an integrative formation of personality, which is characterized by a system of knowledge and skills about the world around.

Modern foreign researchers focus on the complex concept of professional and pedagogical competence of the teacher, which is represented by the following factors: the ability to organize a successful educational process and continuous improvement of its methodology; testing and assessment methods that ensure students acquire knowledge and skills; general and subject knowledge as a prerequisite for further development of pedagogical competence [2].

Based on the analysis and generalization of structural components of

professional and pedagogical competence of specialists and taking into account the specifics of professional activity of primary school teachers, we have identified three interrelated components in the structure of natural competence of primary school teachers: motivational-value, cognitive-cognitive, subject-practical. It is these components, in our opinion, reveal the essence of the natural science competence of primary school teachers and, accordingly, determine the ways and means of its formation and correction.

The first component in the structure of science competence of primary school teachers, we determine the motivational and value. To carry out any activity a person must be motivated to it, feel the need to act. Thanks to motivation, knowledge, skills and practical experience are consolidated and developed.

The motivational and value component of a teacher's science competence reflects the internal aspect of professional activity related to the science teacher's science competence, namely: awareness of the need to develop and improve science knowledge; moral and ethical motives and the need to increase natural consciousness; a system of emotional and value attitudes that determine the direction of the specialist's attitude to nature. The function of the motivational-value component is to recognize natural science competence as a personal value and to educate students' interest in obtaining general or professional-practical knowledge that provides a system of integration of natural-scientific and pedagogical knowledge. This will give future primary school teachers a deeper understanding of their role in forming a holistic natural science picture of students in the world, as well as positively influence the development of value orientations of future professionals, which, in turn, will contribute to the formation of science competence.

Motives arise, develop and are formed on the basis of needs which are a source of activity of the person. They regulate her behavior, determine the direction of feelings, will. Examining the relationship between needs, motives and activities, Leontiev found that motives are formed on the basis of current needs, to meet which it is necessary to perform certain actions [1]. It follows that a strong motivation is one of the levers of influence in the structure of science competence of primary school

teachers, which stimulates, determines and directs their mastery of general science disciplines and contributes to the increase of science awareness.

Values guided by specialists, primary school teachers in particular, are essential for the successful results of any joint activity. Any value is characterized by two properties: functional significance and personal meaning (the latter can be considered as a person's attitude to their needs). For example, the activities of an elementary school teacher can serve as a means of subsistence, and can be seen as a means of self-expression. In both cases there is a need for work. Value consciousness and self-consciousness become a stimulus to action, taking shape and consolidating in the value orientations of the specialist. The leading place in them is occupied by professional orientations that have a decisive influence on the formation and development of natural competence of the future primary school teacher.

The next component in the structure of natural science competence of future primary school teachers is a cognitive-cognitive component, which is characterized by a system of natural science knowledge, which serves as a basis for the successful organization of the educational process.

Knowledge captures the results of human cognitive activity and is the basis of its existence. Knowledge reflects the essential links between cognitive activity and practical human actions, they allow to overcome the limitations of their own experience and form a willingness to behave in different situations that have not yet been encountered [3, p. 167].

The formation of stable, thorough, conscious knowledge in the field of nature, pedagogy, psychology and methods of teaching disciplines is the inner core of the professional activity of a competent and successful primary school teacher.

Cognitive-cognitive component characterizes the moral aspect of science competence of future primary school teachers and provides scientific and theoretical training to form in them a quality that has psychological-pedagogical, didactic-methodological, multidisciplinary natural content, which is sufficient for the formation of science competence in primary school children.

The third component of natural science competence of future primary school

teachers - subject-practical - is characterized by the formed practical skills of future primary school teachers in the formation of natural science competence in younger students; professional self-improvement of future teachers in the context of solving the problem of personality development in relation to the implementation of science tasks. Indicators of operational and activity criteria are: the use of subject-practical skills and abilities in professional activities; mastery of methods and techniques of pedagogical interaction; formation of skills to increase natural science competence.

Subject-practical component of natural science competence of future primary school teachers is expressed through the use of natural science knowledge in professional activities, through a set of skills and abilities to use effective forms, methods, techniques, tools for the formation of natural science competence in primary school students.

**Conclusions.** Thus, we can conclude that the scientific competence of future primary school teachers is an integral part of the professionalism of a modern specialist, which ensures the effectiveness of their professional activities through a set of motives and attitudes, science, professional and pedagogical knowledge and skills to organize a fruitful educational process.

#### **LIST OF REFERENCES:**

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