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Article

Preparing Teachers for Innovative Activity

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Abstract: This article discusses the system of professional competence development of science teachers in schools and its role and advantages in life. Forms of professional competence of teachers are also mentioned.

Keywords: Competence, professional development, teacher, activity, innovation, education, upbringing, teacher, knowledge, problem, educational process, skill, qualification, interactive, continuing education.

Introduction

In the processes of retraining and advanced professional development of pedagogical staff, one of the most important tasks is to develop trainees' professional preparedness in accordance with modern requirements and to equip them with the necessary knowledge, skills, and competencies through the effective use of modern pedagogical and information-communication technologies. Indeed, today the quality of professional development programs is closely connected with the rapid implementation of modern information and communication technologies in educational practice[1].

Teachers who carry out pedagogical activities in harmony with the demands of the modern era are gaining initial experience in applying interactive methods, pedagogical technologies, and information-communication technologies in teaching in accordance with the above-mentioned requirements. In addition, it can be observed that every teacher's innovative competence is also being progressively developed[2].

It is well known that innovations are theoretically grounded, goal-oriented, and practice-focused novelties. Any innovation or newly introduced change requires a high level of emotional and intellectual engagement from learners. For this reason, innovations are gradually making their way into education[3]. As we observe in the educational processes of general secondary schools and higher educational institutions, innovative practice requires learners not only to engage in active dialogue with the teacher, but also to be active and initiative-taking in understanding the world[4].

Today, we can observe not only the activation of the innovative system of education, but also the increased psychological readiness of teachers. The concept of "innovative education" is interpreted differently in scientific literature: some authors view innovations from a philosophical and theoretical perspective, while others understand them as the rational use of certain factors in the educational process, such as active teaching methods or technical teaching tools[5]. The essence of educational innovations lies in their practical nature: they are aimed at developing the capacity for innovative thinking among higher education graduates as well as participants in professional development courses. The objectives of innovative education include ensuring the high-level spiritual, intellectual,

and personal development of learners; creating conditions for learners to acquire scientific thinking skills; and teaching the methodology for introducing innovations into socio-economic and professional spheres[6]. Many educators understand professionalism as the level of mastery in solving professional problems; the ability to carry out one's professional activities; the skill to approach non-standard situations creatively and seek productive solutions; the level of intellectual and personal development; and the presence of core qualifications and competencies. Thus, it is evident that every teacher's professional competence is of great importance[7].

Literature Review

A number of studies have directly examined teachers' professional competence and its specific characteristics. Such research includes the studies conducted by A. K. Markova and B. Nazarova. Thus, innovative education places the educational process in line with the movement of social and general cultural knowledge and skills of one's specialty toward technologies (professional culture), which enables teachers to acquire the tools for understanding professional problems and the methods for solving them.

In Uzbekistan, teachers' professional competence and its specific features have also been studied, among which the research conducted by B. Nazarova is of particular importance. According to the researcher, the following structural foundations form the basis of teachers' professional competence. In achieving professional-pedagogical competence, working on oneself and self-development are of great importance. The tasks of self-development are identified through self-analysis and self-assessment[8].

In the system of continuous education, particularly within general secondary schools, the competency-based approach introduced into the teaching and learning process requires the following:

- Technological innovations – the purposeful use of information and communication technologies in the educational process based on a competency-based approach;
- Pedagogical innovations – the meaningful renewal of the educational process on the basis of a competency-based approach, as well as the introduction of technologies at local and specific methodological levels that activate the course of instruction and students' cognitive activity;

It is well known that the comprehensive implementation of the above-mentioned innovations into the educational process requires teachers to possess certain methodological knowledge, skills, and abilities, as well as pedagogical competence (capacity)[9].

Research Methodology

This study employed a comprehensive methodological approach to examine the preparation of teachers for innovative activity and the development of their professional competence in modern educational conditions. Both theoretical and empirical research methods were used to ensure the reliability and validity of the findings. At the theoretical stage, scientific literature, legal and regulatory documents, and methodological sources related to pedagogical competence, innovative education, and information-communication technologies were analyzed. Comparative analysis was used to examine international and national experiences in teacher professional development and innovation-based teaching practices. At the empirical stage, observations, questionnaires, and interviews were conducted among 60 teachers from general secondary schools and professional development centers. The respondents were selected from different subject areas to ensure objectivity. In addition, 20 lessons were observed and analyzed from pedagogical, psychological, and methodological perspectives.

The collected data were processed through qualitative and quantitative analysis. The results showed that nearly 78% of teachers actively use interactive teaching methods, 72% apply information and communication technologies in lessons, while only 58%

demonstrated a high level of innovative competence. These indicators made it possible to identify existing problems and determine effective ways of improving teachers' readiness for innovative activity.

Results and Discussion

A teacher's acquisition of modern methodological knowledge, skills, and abilities, as well as the presence of pedagogical competence (capacity), serves as the foundation for fostering the development of a well-rounded individual in their pedagogical activity[10].

What kinds of knowledge are required from teachers within an innovative educational environment created on the basis of a competency-based approach? In this regard, it should be noted that, as a result of creating an innovative educational environment introduced into the teaching process, the changes that need to be made in teachers' professional-pedagogical training are often overlooked[11].

As evidence for our opinion, it can be noted that, along with the development of the professional and personal competencies of general secondary school teachers, insufficient attention is paid to the specific characteristics of each academic subject, the structural components of teachers' professional-pedagogical training and pedagogical competence (capacity), as well as the comprehensive analysis (pedagogical, psychological, and methodological) of lessons conducted by teachers. This prevents our educators from fully mastering certain aspects of education[12].

The lack of a comprehensive approach to teachers' pedagogical activity leads to low professional motivation among teachers, a lack of purposeful efforts to improve their professional-pedagogical training, and the organization of the teaching and learning process in a stereotypical manner.

Based on the above considerations, the need has arisen to clarify the concept of teachers' pedagogical competence (capacity). Pedagogical competence (capacity) is a professional-psychological characteristic of a teacher and is considered a set of qualities that express practical and theoretical actions under subjective conditions in organizing and managing pedagogical activity.

Teachers' competencies are divided into two groups:

Core competencies of the teacher;

Specific competencies of the teacher.

In didactic literature, materials concerning the types of teachers' pedagogical competence (capacity) were analyzed, and appropriate modifications were made by taking into account the requirements of the innovative educational environment created on the basis of a competency-based approach[13].

It should be noted that the core competencies of subject teachers in general secondary schools are considered common for all pedagogical staff working in these educational institutions.

The specific competencies of a teacher, however, differ according to the content of the teaching and learning process organized by that teacher in a particular subject, as well as the role they play in fostering the development of a well-rounded individual.

The above-mentioned competencies serve as one of the main characteristics of every teacher in today's educational environment[14].

Thus, under market economy conditions, the need to withstand strong competition in the labor market encourages every specialist to develop professional competence and the qualities associated with it. A teacher's innovative competence is also of great importance. Today, every teacher should focus on continuous self-development in order to achieve professional competence. This, in turn, makes it possible to clearly and objectively identify the existing competencies of teachers, as well as the qualities, knowledge, skills, and abilities that need to be further developed[15].

Conclusion

Preparing teachers for innovative activity is one of the most important factors in improving the quality and effectiveness of modern education. The study shows that innovative competence, professional knowledge, and pedagogical skills play a crucial role in organizing effective teaching and learning processes. In particular, the integration of interactive methods, modern pedagogical technologies, and information-communication technologies into education significantly enhances teachers' professional performance.

The findings reveal that teachers with strong pedagogical competence demonstrate higher effectiveness in lesson organization, student engagement, and educational outcomes. For example, the use of innovative educational environments and competency-based approaches contributes to the development of students' independent thinking, creativity, and active participation in lessons. At the same time, teachers' continuous professional development and self-improvement remain essential requirements in adapting to the rapidly changing educational environment.

Furthermore, the study confirms that pedagogical competence consists of both core and specific competencies, which enable teachers to successfully manage educational processes and solve professional problems creatively. Therefore, systematic professional training, methodological support, and the development of innovative thinking among teachers should be considered key priorities in the education system.

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