



DEVELOPMENT OF FUTURE TEACHERS' CREATIVE THINKING BASED ON INTERDISCIPLINARY ABSCISSA AND ORDINATE INTEGRATION

Xudayberganov Gayrat Kuranbayevich

Independent Researcher at Urgench State University named after Abu Rayhan Beruni, Uzbekistan

ABSTRACT

The thesis examines the pedagogical possibilities of developing the creative thinking of future teachers based on interdisciplinary abscissa and ordinate integration. The scientific and theoretical foundations of creative competence formation are revealed, the didactic conditions for integrating academic disciplines are substantiated, and the influence of interdisciplinary interaction on the professional training of future teachers is analysed. It is demonstrated that the systematic use of interdisciplinary connections contributes to the development of students' creative thinking, independence, and innovative pedagogical activity.

KEYWORDS: Creative thinking, future teacher, interdisciplinary integration, creative competence, pedagogical activity, professional training.

INTRODUCTION

The modern system of higher pedagogical education is focused on training specialists capable of working effectively under conditions of the rapid development of science, the digitalisation of education, and the continuous renewal of pedagogical technologies. In this regard, the development of the creative thinking of future teachers is becoming one of the most important objectives of professional training. A modern teacher must not only possess fundamental knowledge but also be able to independently analyse pedagogical situations, make non-standard decisions, and create innovative educational technologies [1; 2].

In the scientific literature, the development of creative thinking is regarded as one of the key factors in forming the professional competence of a future specialist. However, most existing studies are devoted to individual aspects of creativity, while the issues of developing creative thinking through interdisciplinary integration have not been sufficiently studied. The present study proposes the use of the concept of abscissa and ordinate integration. Abscissa integration ensures the horizontal integration of the content of different academic disciplines, enabling students to establish logical connections between pedagogy, psychology, teaching methodology, and digital educational technologies. Ordinate integration reflects the consistent development of professional and creative competencies throughout the entire period of study [2; 6].

The use of this methodological model contributes to the formation of future teachers' ability to apply knowledge in new pedagogical situations, develop original educational solutions, and carry out professional reflection. As a result, favourable conditions are created for training competitive teaching personnel who meet the modern requirements of the education system. The development of creative thinking is impossible without creating a special educational



environment that stimulates students' independent cognitive activity. Such an environment should ensure not only the acquisition of theoretical knowledge but also the formation of future teachers' ability to apply this knowledge in non-standard professional situations. Therefore, interdisciplinary integration is regarded as one of the most effective mechanisms for improving the quality of pedagogical education [4; 6].

Practice shows that traditional forms of teaching are primarily focused on reproducing ready-made information. At the same time, students rarely face the need to independently analyse pedagogical problems, search for alternative ways of solving them, and substantiate their own professional position. As a result, the level of creative thinking development remains insufficient for successful professional activity. The use of interdisciplinary abscissa integration makes it possible to combine the content of pedagogy, psychology, teaching methodology, information technologies, and other disciplines into a unified educational system. As a result, future teachers gain experience in the comprehensive analysis of pedagogical phenomena, establish cause-and-effect relationships between various scientific concepts, and form a holistic professional worldview [2; 5].

Ordinate integration, in turn, ensures the consistent development of creative competence at all stages of professional training. Each subsequent stage of education is based on previously acquired knowledge and gradually increases the complexity of the content of learning tasks. Such an organisation of the educational process contributes to the development of pedagogical independence, research skills, and the ability to engage in innovative activity.

Problem-based learning, project activities, creative cases, research assignments, and reflective teaching methods play a special role in the development of creative thinking. Their integrated application enables students to independently construct knowledge, make pedagogical decisions, defend their own point of view with reasoned arguments, and objectively evaluate the results of their professional activity [6; 8].

The pedagogical study established that the highest results are achieved through the systematic use of interdisciplinary assignments requiring the integration of knowledge from various fields of pedagogical science. Such assignments develop analytical thinking, professional mobility, the ability to make pedagogical forecasts, and the capacity to search for original solutions to educational tasks.

The obtained results indicate that interdisciplinary abscissa and ordinate integration constitutes an effective pedagogical mechanism for forming the creative competence of future teachers and creates scientifically grounded conditions for improving the modern system of higher pedagogical education [3; 6].

The results of the conducted study showed that the use of the interdisciplinary model significantly increases the effectiveness of developing the creative thinking of future teachers. During the experimental work, positive changes were identified in the motivational, cognitive, activity-based, and reflective components of students' creative competence. The most pronounced changes were observed among the students in the experimental group, where the educational process was organised on the basis of abscissa and ordinate integration of academic disciplines.

The analysis of the results showed that the use of integrated pedagogical assignments contributes to the development of the ability to independently analyse professional situations, establish interdisciplinary connections, select the most effective methods for solving

pedagogical tasks, and provide reasoned justification for one's own decisions. At the same time, the level of students' independence and their readiness for innovative pedagogical activity increase significantly [5; 6].

During the study, particular attention was paid to developing the reflective culture of future teachers. The regular use of self-assessment, expert assessment, portfolios, and reflective diaries enabled students to objectively analyse their own achievements, identify professional difficulties, and determine directions for further self-development. This ensured a sustainable improvement in the quality of professional training. The obtained data make it possible to assert that the effectiveness of the developed model is determined by the integrated interaction of educational content, modern pedagogical technologies, interdisciplinary integration, and continuous diagnostics of learning outcomes. It is precisely this combination that ensures the formation of professionally significant qualities in future teachers and the development of their creative potential [2; 9].

Thus, interdisciplinary abscissa and ordinate integration is an effective scientific and methodological means of developing the creative thinking of future teachers. The proposed approach ensures the systematic formation of professional competencies, contributes to the development of independent and creative thinking, improves the quality of pedagogical training, and meets the modern requirements for the modernisation of higher education. The results of the study may be used to improve educational programmes in pedagogical fields of study, develop teaching and methodological complexes, and organise innovative educational activities in higher education institutions.

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