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Interactive and Innovative Pedagogical Approaches to Developing Creative Competence in Pre-Service Teachers

Jamshid Xoliyorovich Nazarov*¹

1. Independent Researcher (PhD), Termez State University

* Correspondence: jamshidnazarov05@gmail.com

Abstract: Above all, in a globalization and digital transformation environment, national education systems depend more than ever on high-quality, creative, dynamic, professional, and effective teachers. The educational reforms currently in place in Uzbekistan emphasize modern pedagogical technologies and new approaches to instruction that are most especially relevant to preparing preservice teachers of pre-prescription primary education, the professional roles of which is not limited to the subject of knowledge and is expanded to helping students take initiatives, develop responsibility and approach work with a team spirit. While the policy intent exists, during the 4–5 years of the teacher training programs, there is still less systematic knowledge on what kinds of interactive, project-based and technology-enhanced pedagogies actually help this group develop creativity. The goal of this article is to analyze the approaches and methods of pedagogy that are able to provide high-quality formation of creative competence of future teachers of pre-prescription primary training. Project-based learning and interactive and problem-based methods are reported as conducive to independent thinking, creative reasoning, collaboration, and pedagogical reflection among participants. The research combines elements of ample interactive forms and up-to-date pedagogical technologies into a holistic scheme aimed at the professional training of teachers of primary education pre-prescription period. These findings imply that a systematic application of these approaches will not only strengthen the professionals' competence but also his or her personal potentials for creativity, which in turn raises the overall quality of teacher education programs and the effectiveness of their graduates as teachers.

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1. Introduction

In the current context of globalization, digital transformation, and fast innovation, the main resource determining the development and competitiveness of the country is the formation of educated, specialized, creative, active, and responsible human capital. Today, the deep modernization of the modern education system, the incorporation of modern technologies into the educational process, and the increasing of the professional potential of teachers are defined as priority areas of the state policy of the Republic of Uzbekistan [1][2].

It is very true, because this is the exact motto of the large scale educational reforms our nation is currently undergoing to prepare our next generation, as a competitive and creative thinker along with the modern knowledge and technologies. In accordance with

the principles of continuity, consistency, and effectiveness, this process is implemented at all stages of the education system from preschool education to higher education [3].

Thus, providing future military teachers of primary training with the high degree of readiness to work at professional and personal levels, developing their creative potential, strengthening their ability for critical reflection, and providing for pedagogical work on the basis of innovative educational models has been transformed in the modern education system into an urgent issue. This is because the educators in this area are key to instilling patriotism, civic responsibility, teamwork, and initiative in the next generation [4].

As the President of the Republic of Uzbekistan Sh. President Shavkat Mirziyoyev Soliqqa bayonnoma M. during the meeting M. The future of our society in the development of society itself with healthy generations being trained strongly stressed that it depends on Shavkat Mirziyoyev solemn speech at the international symposium [5]. So, focusing on the expansion of the limits and the efficiency, of our reforms we rely on our young people, who took initiative, in mastering modern skills and knowledge, in the way that shows that they are indeed worthy of all of our efforts to make the world, that will be more welcoming to their aspirations." Youth initiative, creative potential and professional activity is one of the most important priority points of modern educational policy which is the subject of this address [6].

This issue is especially crucial in the training of the future pre-service teachers of pre-prescription primary education. This subject domain demands that teachers, among the usual competencies of content knowledge and practical experience, also possess creativity, innovation, pedagogical initiative, and the proper application of modern technologies in education. So their cultivation of creative potential in pre-service teachers is an integral part, for improving the efficiency of professional training and for renewing the content and essence of the educational process [7].

Creative potential development of future specialists: a necessary focus in training of pre-service teachers of pre-prescription primary training It requires knowledge applicable to the military, modern teaching methodologies, creative ideas, and pragmatic use of creativity. Creativity is one of the important elements of a teacher's professional activity, which is needed to organize lessons in a lively, effective and solid way. In this view creativity is aligned with one of the main criteria testing the professional competence of a teacher in modern education [8].

In context to education process, the primary and most important component that is associated with development of creative abilities is the choice of adequate forms of education. Learners actually feel independent and creative as lectures, seminars, practical classes, training sessions, and project-based, activities fascinate their thinking. Specifically project-based work promotes teamwork, creativity and ownership on the part of the students [9].

2. Methodology

The present study methodology employs qualitative content analysis to explore pedagogical approaches to creative skills development for pre-service teachers of pre-prescription primary education. The study comprises a systematic review and analytical synthesis of national policy documents, academic literature and conceptual definitions from the source documents about pedagogic technologies, creativity and interactive learning. The research is based on comparative and logical analysis, through which different types of instruction, methods of interaction, and advanced pedagogical technologies that are considered effective in this process are identified and classified according to the areas covered in the ongoing educational reforms in Uzbekistan [10]. Instead of actually measuring these things, the various pedagogical phenomena of project-based learning, interactive instruction, problem-based learning, training sessions, simulations, elements of gamification, and digital tools are analysed. This methodological

process examines how these methods work in lectures, seminars and practical classes to encourage pre-service teachers to think independently, think creatively, collaborate and reflect on their practice. Especial theoretical interpretations of pedagogy technology by eminent scientists payed attention, enabling the study to conceive the technology as a systemic and directed organization of the educational process. Inductive closure of these findings rests on documented educational practices and theoretical positions to specify generalized conclusions about the role of creative competence development. It is the methodological approach that supports understanding both the interactive pedagogical and technology-enriched approaches to effect the professional and personal development while avoiding empirical data outside of the content analyzed.

3. Results and Discussion

We believe that the best way to form the creative potential of future teachers of preconscription primary training it is to use interactive learning methods on the lessons. The term interactive instruction, also referred to as interactive learning, makes students feel interactive at all levels, as opposed to passive recipients of knowledge. All students voice their own opinions, defend their ideas, and create new solutions together with their peers. It also improves their experience report as well as necessary life as well as professional skills like decision making, communication culture, and team work [11].

Studies such as G. K. Zaripova and H. U. Sultanov explain that interactive learning not only increases the interactive role of the teacher but also drastically increases a student's involvement in the learning process. They found that interactive instruction was much more effective than the traditional mode, and allowed learners to think free of structure, engage in free discussion, and come up with their own ideas. This not only leads to better quality of education but also creates a collaborative and creative environment and interaction between teachers and students. This, in its turn, facilitates the acquisition of the personal and professional competencies needed for organizing the focused pedagogical processes in the future [12].

Also, use of interactive methods change the function and action of the teacher. Conventional education sees the teacher as the one who conveys prepared knowledge, whereas in interactive instruction, the teacher plays the roles of discussion facilitator, guide and motivator. This helps creating an atmosphere conducive to the preparation of pre-service teachers for the actual conditions of their profession, increasing their entrepreneurship and creativity and more [13].

Such training enables the students to develop confidence, gain communicative skills and collaborative features. It promotes self research, planning and creativity through project-based activities therefore encouraging future teachers to think outside the box, and make sound choices. In particular, problem-based learning environments opens up possibilities for quick decision making in unstructured contexts, application of knowledge to practice and social responsibility of learning experience.

Today, pedagogical innovations such as information and communication technologies, simulation exercises, gamification elements, and interactive software substantially improve the efficiency of the teaching process. Such technologies help in students learn actively, increase focus and motivation, and also provide wings to their creative ideas.

Use of modern pedagogical technologies has significant place in education. ICT, for example, facilitates faster lesson planning, quicker sharing of information between students and teachers, and increased independent learning online. Textbooks factored into the increase in electronic test supplies and programs that let students reinforce what they've read on their own.

Students can take part in simulation exercises that mimic real-life situations, but in a safer context. Pre-conscription primary training can benefit greatly from this technology,

giving students the opportunity to practice emergency response, collective decision making, and safety protocols using simulations.

Gamification elements boost the willingness for students to work out the tasks because they embed gaming mechanics in the studying process. In learning, rating systems, collecting points, and rewards help stimulate interest in learning, competition, and the way of knowledge address in creativeness.

Interactive software rejuvenates the communication in between tutor and students. Graphics, Audio, and Animation Online dialogues, virtual laboratories, graphs, and multimedia are some of the tools that enable learners to understand and interact with text, conduct independent research, and it helps in restructuring new knowledge [14].

In summary, the use of these technologies can boost the morale of students, learn different creative skills, learn how to think and decide for themselves, and enhance the overall quality of education. Thus, the use of contemporary educational technologies is important in the process of training future teachers to become informed, mobile, creative personalities, possessing a high level of digital competence.

Pedagogical technology is a system of pedagogical methods that have the form of rules and are directed toward the development, education, and upbringing of learners (O. S. Grebenyuk)

Such a definition shows that pedagogical technology, which has entered into practice and teaching, represents not only methods and techniques but also the whole environment, although pedagogical technology in this aspect may be the premises of personal development and upbringing of learners. Put more simply, technology is not a technique, but rather a systemic method in which the educational process is focused on well defined goals, with theoretical principles correlated with practical application at every level.

That is the pedagogical technology as Grebenyuk states a foundation in pedagogical technology is the systematic interrelationship of principles, methods, means and forms applied in the process of education. As a result, it is a tool for conveying knowledge, training a holistic learner, and achieving the educational objectives and creating interactive relationship among teacher and student.

Pedagogical technology, in this regard, is a carefully prepared teaching event and a technology for organizing the process of mastering students as one of the most significant factors determining the quality of modern education. According to N. X. Avliyaqulov and N. N. Musaeva, pedagogical technology is used as a concept that includes a systemic approach to the design, implementation, and assessment of the teaching and learning process, where all the technical and human resources and their interaction and synergy are taken into account in order to optimise the forms of education [15].

The conclusion which can be drawn from this definition is that pedagogical technology is not just the set of methods, it is a complex mean of integrating & organizing the process of education as one single systematic process oriented to a goal. Its focus is on the interconnectedness of teacher action, technical devices, methodical ways, and above all, the learner. Therefore, the essence of pedagogical technology is determined by the following aspects (Figure 1).

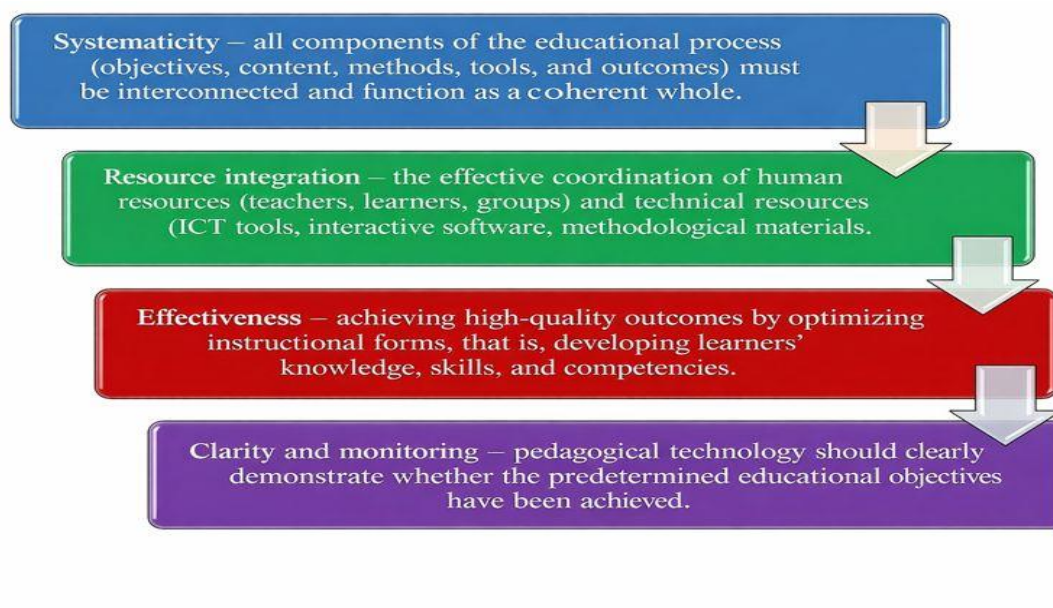


Figure 1. Key Characteristics of the Essence of Pedagogical Technology.

Scholars emphasize that the primary purpose of pedagogical technology is not merely to organize the educational process, but to improve it in a more systematic, effective, and learner-centered manner. At the same time, the main function of pedagogical technology is the comprehensive development of the learner's personality, including the formation of creativity, independent thinking, and professional competencies.

Therefore, based on the results of the conducted research, we propose project-based activities, modern pedagogical methods, problem-based learning, and the application of advanced pedagogical technologies as priority directions for developing the creative abilities of pre-service teachers of pre-prescription primary training. These approaches not only contribute to the formation and strengthening of future teachers' professional competencies but also ensure the comprehensive development of their personal, intellectual, and creative potential.

Project-based activities foster students' independent thinking, decision-making, creative approaches, goal orientation, and planning skills. The use of pedagogical methods activates the learning process, expands students' creative thinking, and trains them to find independent solutions in non-standard pedagogical situations. Problem-based learning, in turn, directs students toward critical thinking, analysis, logical reasoning, and creative decision-making.

The application of modern pedagogical technologies particularly interactive methods, digital learning tools, reflective platforms, and collaborative learning models enhances the effectiveness of the educational process while expanding teachers' intellectual, communicative, and creative capacities. These technologies strengthen interactive cooperation between teachers and students and create a psychologically supportive environment for the creative acquisition of knowledge. In particular, interactive methods develop skills related to independent thinking, problem-solving in non-standard situations, and collaborative activity.

4. Conclusion

The study concludes that the development of creative abilities in pre-service teachers of pre-prescription primary education is inseparable from the systematic application of interactive, project-based, problem-based, and technology-enhanced pedagogical approaches. The analysis highlights that methods such as project activities, interactive learning, simulations, gamification, and the use of digital tools consistently foster

independent thinking, creative reasoning, collaboration, and professional reflection, thereby strengthening both personal and professional competencies of future teachers. The findings indicate that pedagogical technologies should be understood not as isolated techniques but as an integrated, goal-oriented system that restructures the educational process and transforms the teacher's role into that of facilitator, guide, and motivator. The implications of this study suggest that teacher education programs should prioritize the deliberate integration of modern pedagogical technologies and interactive methods to improve educational quality and align training with contemporary professional demands. At the same time, the research is limited to conceptual and analytical perspectives, indicating a clear need for further empirical studies that investigate the measurable impact of these approaches on creative competence development, as well as comparative research across different educational contexts and disciplines to validate and refine the proposed directions.

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