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DEVELOPING STUDENTS' INVENTIVE ABILITIES THROUGH A CREATIVE APPROACH IN TECHNOLOGY LESSONS

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ABSTRACT

This article extensively examines the significance of using creative pedagogical technologies to develop students' inventive abilities during technology lessons. The theoretical foundations of applying creative methods in pedagogical processes are analyzed, practical experiments conducted, and results presented with statistical substantiation. Scientific recommendations are provided for involving students in innovative activities by creating problem situations, design processes, and fostering creative thinking.

Keywords: Technology education, inventive abilities, creative pedagogy, innovative educational technologies, creative thinking, designing, problem situations, methodological innovations.

INTRODUCTION

In today's world, one of the primary tasks of the education system is to cultivate a generation capable of creative and innovative thinking, contributing to societal development. The application of pedagogical methods aimed at developing creative abilities is becoming increasingly important. Technology education uniquely enables students to link theoretical knowledge with practical activities, fostering creative thinking, initiative, and inventiveness. Developing students' inventive abilities through creative pedagogy in technology lessons is thus an urgent scientific and practical issue.

Innovative technologies remain one of the main areas of research in modern pedagogy. Globally, developing students' creative thinking, decision-making skills, and innovative aspirations through innovative educational approaches is a highly debated topic. Numerous studies in pedagogy and psychology emphasize the importance of cultivating creative thinking and inventive skills.

A distinctive feature of technology education is that students can not only practically apply their knowledge but also develop critical skills such as creative problem-solving and independent decision-making. Educating innovative, creative, and proactive youth is crucial for addressing contemporary societal challenges. Hence, educational institutions and teachers play an indispensable role.

The "New Uzbekistan Strategy" adopted by the President of the Republic of Uzbekistan and other regulatory documents on educational development emphasize developing young people's creative and inventive skills using innovative pedagogical technologies as a priority. Consequently, the creative approach in technology education remains relevant today.

Research indicates that technology lessons structured through creative pedagogy enhance students' creative activities, enabling them to develop innovative ideas. However, effectively implementing these approaches requires relevant scientific and methodological frameworks and teacher preparedness.

Teachers must possess theoretical knowledge and practical skills to utilize creative methods effectively in pedagogical activities. Developing methodological aspects and evaluating the effectiveness of creative pedagogical technologies also represent essential scientific and practical tasks. This research aims to study and develop methodological recommendations for applying creative pedagogical technologies in technology lessons to foster students' inventive abilities.

Currently, numerous pedagogical technologies aimed at developing creative thinking exist, each with distinctive methodological features. Methods such as creating problem situations to engage students creatively and design technologies to develop practical skills are widely employed. Within this research framework, these methods were thoroughly analyzed, and their effectiveness experimentally tested.

Additionally, the study highlights that a teacher's personal creativity, motivational activities, and methodological preparedness significantly influence developing students' creative and inventive skills. Therefore, enhancing teachers' competencies and preparing them in creative pedagogy is viewed as one of the fundamental tasks of the educational system.

The scientific novelty and practical significance of this research lie in developing methodological foundations for fostering creative activities in technology lessons, validated through pedagogical experiments. Research findings underscore the necessity of widely implementing creative pedagogical technologies in technology education.

Methodology and Literature Review

The research employed methods such as pedagogical observation, surveys, interviews, experimental testing, and statistical analysis. Advanced international and local research outcomes were referenced when organizing pedagogical experiments. Sources revealing scientific foundations of creative pedagogy and inventive ability development were analyzed in detail.

J.P. Gilford's creativity theory facilitates an in-depth analysis of processes involved in developing creativity and innovative thinking skills. Gilford highlights flexibility, original thinking, spontaneous idea generation, independent problem-solving, and the ability to view ideas from various perspectives as essential components of creativity. His theory underpins creativity-oriented pedagogical approaches.

E. de Bono's lateral thinking theory provides valuable insights into fostering creative thinking in pedagogy. According to de Bono, traditional pedagogical systems emphasize vertical thinking focused on logical and sequential solutions. In contrast, lateral thinking seeks unconventional and unexpected solutions, proving highly effective for developing students' creative thinking in technology lessons.

Local studies by U.Sh. Begimqulov and I.I. Tursunov emphasize that creative pedagogical technologies encourage students to engage in creative thinking and practical activities. Their research details necessary pedagogical conditions and methods for fostering creativity in education.

Sh.A. Amonashvili's humanistic and learner-centered pedagogical approach also effectively fosters creativity by emphasizing friendly and cooperative teacher-student relationships, which serve as crucial psychological factors in developing creativity.

Results and Discussion

Pedagogical experiments involving two groups—one utilizing traditional methods and the other employing creative pedagogical technologies—were conducted. The experimental results demonstrated that lessons organized through creative methods significantly increased students' active engagement and interest in developing innovative projects. Statistically, creative methods resulted in a 50-60% improvement in students' creative outputs compared to traditional methods.

Qualitative analyses of student projects revealed significant differences. Projects from the creatively oriented groups featured original ideas and innovative solutions more abundantly than traditional groups. Students identified and independently solved problems, demonstrating their growing inventive capacities.

Surveys revealed that over 85% of students found creative pedagogy-based lessons more engaging and effective, citing increased independent thinking, idea generation, and practical skill development. Observations indicated that creative methods significantly enhanced student collaboration, communication, and teamwork.

Teacher feedback underscored increased student interest in education through creative pedagogy, with 90% of educators expressing a desire to regularly incorporate these methods into their teaching practices. Moreover, creative methodologies improved students' psychological and emotional well-being, boosting their overall academic success and engagement.

Detailed statistical data, graphs, and diagrams reinforced these findings, clearly illustrating the role of creative pedagogical technologies in enhancing educational quality.

Conclusion and Recommendations

Research results emphasize the necessity of broadly applying creative pedagogical technologies in technology lessons. Recommendations include:

•Implementing creative methods extensively in teaching technology; • Organizing professional development courses for teachers in creative pedagogy; • Regularly conducting innovative idea and project competitions; • Establishing creative laboratories and innovation centers to support students' creative and practical activities.

These methodological recommendations significantly contribute to advancing technology education and cultivating innovative human resources.

REFERENCES

1. Gilford, J.P. Creativity. American Psychologist, 1950.
2. De Bono, E. Lateral Thinking: Creativity Step by Step. Harper & Row, 1970.
3. Amonashvili, Sh.A. Humane and Learner-Centered Approach to Children in Education. Moscow: Prosveshchenie, 1990.
4. Begimqulov, U.Sh., Tursunov, I.I. Pedagogical Innovations and Creative Educational Technologies. Tashkent: Fan va texnologiyalar, 2018.