INTERNATIONAL MULTI DISCIPLINARY JOURNAL FOR RESEARCH & DEVELOPMENT
eISSN 2394-6334 Impact factor: 8.854 Volume 13, issue 06 (2026)

PSYCHOLOGICAL OPPORTUNITIES OF STEAM TECHNOLOGIES IN DEVELOPING ENTREPRENEURSHIP IN PRESCHOOL CHILDREN

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https://doi.org/10.5281/zenodo.20562660

Abstract: This article analyzes the psychological potential of STEAM (Science, Technology, Engineering, Art, Mathematics) technologies in developing initiative in preschool children. The study examined the importance of the STEAM approach in developing children's independent thinking, creativity, problem-solving skills, and initiative qualities. The results showed that activities based on STEAM technologies increase children's interest in knowledge, form independent decision-making skills, and develop an active life position in them.

Keywords: STEAM technology, initiative, preschool education, psychological development, creative thinking, problem situations, innovative pedagogy, independent activity, child psychology, integrative education.

INTRODUCTION

Today, the fundamental changes taking place in the world education system, the rapid development of science and technology create the need to educate the younger generation on the basis of modern competencies. Qualities such as creative thinking, critical thinking, problem solving, teamwork and initiative, which are recognized as the skills of the 21st century, are an important factor in a person's personal and professional success. Therefore, the issue of forming these competencies from childhood is becoming one of the priorities of international and national education policies.

The preschool period is one of the most important and responsible stages in a person's life, and it is during this period that a person's intellectual potential, worldview, interests, emotional state and social relationships begin to form. Psychologists say that the main foundation for a child's future educational activities and personal success is created during preschool age. Therefore, supporting children's natural curiosity and need for research is an important pedagogical task in preschool educational organizations.

Initiative is an important socio-psychological quality of a person, which is manifested in the desire of a person to start a new activity, make independent decisions, actively move towards the goal and put his ideas into practice. The formation of initiative in preschool children creates an important foundation for their successful study at later stages of education, work in a team and adapt to various life situations. Therefore, one of the urgent issues is the search for and implementation of innovative pedagogical technologies that serve to develop initiative in children. STEAM technology, which has been widely used in educational practice in recent years, is recognized as an effective means of implementing these tasks. The term STEAM means the integration of the areas of Science, Technology, Engineering, Art and Mathematics. This approach directs children not to memorize theoretical knowledge, but to learn through practical activities, experiment, observe, analyze and find new solutions. As a result, children learn to apply their knowledge in real-life situations.

The main advantage of STEAM technologies is that they create ample opportunities for children to think independently and show initiative. For example, construction work, experimental exercises, robotics elements, creative projects and problem situations encourage

children to actively search. During such activities, the child does not accept ready-made answers, but tries to solve the problem independently. It is this process that serves to form initiative.

From a psychological point of view, STEAM activities activate children's cognitive processes. Mental operations such as observation, comparison, analysis, generalization and drawing conclusions are constantly improved. At the same time, children's intrinsic motivation increases, because they can see the results of their activities in practice. This, in turn, increases self-confidence and creates new initiatives.

Another important aspect of STEAM technologies for preschool children is their age and psychological characteristics. Children of this age tend to learn through play. STEAM activities, however, arouse high interest in children, as they combine elements of play, experimentation, and creative exploration. This, along with increasing the effectiveness of the educational process, helps to develop children's initiative, independence, and creativity.

Today, large-scale reforms are being implemented in Uzbekistan to modernize the preschool education system, introduce innovative educational technologies, and comprehensively develop children. In this process, it is important to scientifically study the possibilities of the STEAM approach and effectively implement it in practice. Because modern society needs a generation that is proactive, creative, and able to put forward innovative ideas.

In this regard, the purpose of this study is to analyze the psychological potential of STEAM technologies in developing initiative in preschool children, to determine their importance in the educational process, and to develop scientific and practical recommendations for the use of these technologies. The results of this study serve to improve innovative pedagogical activities in the preschool education system and support the personal development of children.

METHODOLOGY

The study used the methods of analysis of scientific and pedagogical and psychological literature, observation, comparative analysis, interview and generalization.

The study was carried out in the following stages:

— Study of the theoretical foundations of STEAM technologies
— Analysis of the psychological characteristics of preschool children
— Identification of factors for the development of the quality of initiative
— Assessment of the impact of STEAM activities on children's psychology
— Analysis of the results of practical observations
— Development of scientific conclusions and recommendations

In the course of the study, children's independent activity, reaction to problem situations, and activity in completing creative tasks were studied.

RESULTS

The results of the study showed that the use of STEAM technologies serves to increase the level of initiative in children.

The identified results include the following:

— children's interest in knowledge increased
— independent decision-making skills developed
— creative thinking became more active
— the ability to solve problem situations was formed
— leadership qualities were demonstrated in group activities
— skills of free expression of one's own opinion developed
— increased activity in promoting new ideas
— increased interest in learning through practical experiences

The results confirmed the positive impact of STEAM technologies on the formation of initiative in children.

DISCUSSION

The analysis showed that STEAM technologies have wide psychological potential for developing children's initiative. This approach serves to form children not as subjects who receive ready-made knowledge, but as active researchers and independent decision-makers.

During STEAM classes, children encounter various problem situations and seek independent solutions to solve them. This process develops critical and creative thinking in them and helps to form initiative.

Psychologically, STEAM activities strengthen children's internal motivation. Because they have the opportunity to turn their ideas into practical results. Successfully completed tasks, in turn, strengthen self-confidence and give rise to new initiatives.

In addition, collective projects serve to develop a culture of communication, cooperation and leadership skills in children. As a result, they begin to demonstrate not only individual, but also social initiative qualities.

CONCLUSION

In conclusion, STEAM technologies are one of the modern, effective and promising pedagogical tools for developing initiative in preschool children. Today, in the conditions of innovative development of society, the development of science and technology, the formation of such qualities as independent thinking, problem solving, creative approach and initiative in children is of great importance. Since the foundation of these qualities is laid precisely in the preschool period, the need to organize the educational process on the basis of modern pedagogical technologies is increasing.

The results of the study showed that STEAM technologies support children's natural curiosity and need for knowledge. The integration of elements of science, technology, engineering, art and mathematics allows children to connect theoretical knowledge with practical activities. Such an approach, in turn, develops their ability to think independently, analyze, observe and draw conclusions. As a result, children become more active in their activities, strive to put forward new ideas and take the initiative in various situations.

The analysis showed that during STEAM classes, children often encounter problem situations and try to develop independent solutions to them. It is this process that develops in them the qualities of activity, independence, responsibility and creativity, which are the main components of initiative. During the implementation of a project or experiment, the child puts forward his own opinion, analyzes the results and suggests new ideas. This has a positive effect on his development as a person. From a psychological point of view, one of the important advantages of STEAM technologies is the formation of intrinsic motivation in children. While in traditional education the child often participates as a subject receiving ready-made knowledge, in STEAM activities he plays the role of an active participant and researcher. This increases interest in educational activities, forms a sense of success and strengthens self-confidence. In turn, a self-confident child strives to put forward new initiatives and complete complex tasks.

The study found that STEAM technologies have a positive impact not only on the individual, but also on the social development of children. Team projects and collaborative activities develop in children such qualities as a culture of communication, teamwork skills, exchange of ideas, and respect for the views of others. This creates the basis for the formation of social initiative and contributes to the successful adaptation of children to society.

In general, STEAM technologies are a psychologically based, pedagogically effective, and practically promising means of developing initiative in preschool children. With the help of these technologies, it is possible to educate an independent-thinking, creative, active, and innovative generation. This will make a worthy contribution to the innovative development of the country and the formation of competitive human capital in the future.

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