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The Role of Advanced Foreign Language Integration in Preschool Educational Organizations

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Abstract:

This article analyzes advanced international practices in shaping early mathematical concepts in preschool children. The primary goal is to explore innovative pedagogical approaches aimed at fostering children's mathematical thinking and adapting them to the local educational system. In leading countries such as Finland, Japan, the USA, and Germany, interactive and play-based methods are widely employed to introduce mathematical knowledge in preschool education.

Keywords: Preschool education institutions, advanced international practices, mathematical thinking, innovative pedagogical technologies, Montessori method, Reggio Emilia approach.

Introduction

The education system is undergoing extensive transformations and modernization across all levels. The leadership of our country places special emphasis on the development of preschool education, recognizing it as the first and most fundamental stage in shaping the future generation. Uzbekistan has now established a distinctive preschool education system that ensures the holistic upbringing, education, and development of young children[1].

Preschool educational institutions aim to systematically and purposefully prepare children for formal schooling, nurture their individual talents and abilities, introduce them to national, universal,

and cultural values, foster intellectual growth, instill high moral and ethical foundations, and enhance both their physical and mental well-being.

In this regard, further improvement of the preschool education system remains a pressing priority[2]. This includes creating an effective governance framework, expanding both public and private preschool institutions, strengthening the material and technical infrastructure, ensuring institutions are staffed with highly qualified pedagogical professionals, significantly increasing preschool enrollment rates, and integrating modern educational programs and technologies into the learning process. Through these efforts, children can experience well-rounded intellectual, moral-aesthetic, and physical development while receiving high-quality preparation for school.

Methodology

Today, adopting and creatively implementing international best practices, updating regulatory documents, developing methodological literature, and designing educational resources that meet contemporary standards have become crucial. Moreover, utilizing advanced foreign methodologies to enhance preschool institution leadership and specialists' expertise in modern management and pedagogical technologies is among the key challenges.

By incorporating global insights while maintaining a strong national identity, Uzbekistan continues to advance its preschool education system, ensuring that the youngest members of society are nurtured in a stimulating and forward-thinking learning environment. These reforms will not only improve the quality of early education but also lay a solid foundation for the nation's future intellectual and cultural prosperity.

Results and Merhodology

Collaborative learning means that students work together in two or more groups, find solutions to problems or create products. Among the developed countries, the pre-school education system in Japan is given a lot of attention, because psychologists say that before the age of 7, a person acquires 70% of knowledge, and the remaining 30% for the rest of his life. Preschool education usually begins with the family[3].

For Japanese women, motherhood comes first. Many Japanese women say that raising children is their life's goal. The Japanese are in favor of early adulthood. Emphasizes different problems of upbringing in different youth. For example, at the age of 1 - to instill a sense of self-confidence, at the age of 2 - to show practical art and handiwork, at the age of 3 - to educate a sense of duty, at the age of 4 - to teach the difference between good and evil, at the age of 5 - to educate leadership qualities, to teach independence, to make plans and to carry them out.

The Federal Republic of Germany consists of 16 independent federal states (Länder), each of which has a different educational system[4]. Educational institutions are mostly state-owned and have state guidelines for the educational program. The federal government's powers are limited to pass major laws, including funding. The following can be said about educational expenses:

- money for studying in state general education, vocational educational institutions of any Federal Lands will be provided at its own expense by buses transporting students from home to school, from school to home in all Federal Lands;
- almost all students are given textbooks and study guides at a fraction of the cost;
- the state provides financial assistance to certain categories of pupils and students according to the existing federal laws.

The Republic of South Korea attracts the attention of many researchers, because this country is one of the rare countries in the Asia-Pacific region that has achieved the achievements of post-industrial civilization[5].

Koreans believe that the main task to be performed is to preserve their traditional culture, strive to connect political and socio-economic reforms with their cultural-political identity, traditional values and landmarks of the East. One of the most important achievements of Canadians is their education system. The quality of education at leading universities and colleges is very high and Canadian degrees are recognized worldwide. In the international ranking, Canadian education ranks second after the United States[6]. Curricula of different provinces of Canada show some peculiarities. For example, in Quebec, Ontario, Manitoba, preparation for school in a preschool organization is 2 years, from 4 to 6 years, in Albert and British Columbia 1 year. In Belgium, preschool education (MT) lasts from 2.5 to 6 years. When they reach the age of 2.5, children are sent to a preschool education organization, so the number of children in the group changes throughout the year[7]. The main goal of preschool education groups is to develop children's cognitive, communicative and creative abilities. The training is conducted in the form of a game. The structure of the education system in the United States of America is as follows:

- preschool educational institutions where children are educated from 3 to 5 years old;
- Primary schools up to grades 2 - 8 (children from 6 to 13 years old study in such schools);
- Secondary schools with grades 9-12 (children up to 14-17 years of age are educated in these schools).

The formation of the first mathematical concepts in preschool children includes many methodological approaches based on foreign experience. In preschool education, mathematics plays a unique and important role at the elementary level[8]. Therefore, many developed countries are trying to organize children's education based on advanced pedagogical approaches. Below are some foreign experiences and methods of forming the first mathematical ideas in preschool children based on them:

Montessori Method (Italy)

Developed by Maria Montessori, the Montessori education system provides children with the freedom and independence to explore and develop their sensory and intellectual potential. This approach encourages self-directed learning while fostering curiosity and critical thinking skills.

To develop mathematical concepts, the Montessori method utilizes specialized materials such as Montessori blocks, number cards, and other hands-on learning tools[9]. Through these materials, children:

- Learn the relationship between numbers and quantities.
- Familiarize themselves with numerical order and sequencing.
- Engage with measurements and geometric shapes.

The Montessori approach allows children to grasp mathematical concepts and skills independently while receiving guided support from their educators.

Reggio Emilia Approach (Italy)

The Reggio Emilia approach is based on the principle of teaching children according to their interests and needs[10]. This method encourages exploration and discovery through various visual materials, construction sets, and art resources to develop mathematical concepts. In this system, mathematics is integrated with nature and art, fostering a holistic learning experience.

Through the Reggio Emilia approach, children:

- Learn about shapes, measurements, and geometric concepts.
- Develop mathematical thinking by solving small problems.
- Discover mathematical concepts through creative projects and artistic expression.

Swedish Model

The Swedish preschool education system places great emphasis on making mathematical learning engaging and playful. The approach is designed to teach mathematical concepts through games and diverse activities, ensuring children develop a natural curiosity for numbers and logic[11]. For instance, children learn numerical relationships by grouping, building, or playing games that involve equality and quantity comparison.

In the Swedish model:

- Children use sets to learn numbers and sequences.
- Games provide opportunities to explore shapes and measurements.
- Basic mathematical operations, such as addition and subtraction, are commonly introduced through play[12].

Finnish Model (Finland)

The Finnish preschool education system places great emphasis on developing early mathematical concepts in children. In Finland, fostering an interest in mathematics from an early age is a priority. Children explore mathematical concepts through various games, drawings, and illustrations. Through play-based learning, they develop an understanding of quantities, shapes, colors, and order.

Teachers work with children in small groups, ensuring an individualized approach that caters to each child's learning pace and needs.

United States (Early Math Program)

In the United States, the *Early Math* program is designed to cultivate mathematical understanding in preschool-aged children[13]. This program introduces key mathematical concepts through structured activities and guided exploration. Children engage in learning experiences that help them:

- Work with numbers and quantities.
- Understand comparative concepts such as more and less, big and small.
- Recognize geometric shapes and distinguish their differences.

This approach encourages children to participate in social activities where they interact with peers and teachers, allowing them to build mathematical knowledge in a collaborative and engaging environment[14].

Vygotsky Approach (Russia)

Based on Lev Vygotsky’s developmental theory, the Russian preschool education system highlights the crucial role of social environment and teacher guidance in shaping early mathematical concepts. According to Vygotsky’s theory, children acquire mathematical understanding through social learning experiences. By engaging in structured interactions, they develop cognitive abilities that enable them to grasp mathematical concepts effectively[15].

Mathematical concepts and knowledge are not innate, but gradually acquired in the process of activity based on the level of mastery and the correct direction of interests, systematicity and consistency. Mathematical concepts are formed on the basis of interdependence. Each country

develops a number of systems and methods in all areas based on its own laws and programs. The methodology that brought the most effective and positive results will be put into practice. Among the countries of the world, the USA, China, Japan and Russia are leading in terms of mastery of mathematical knowledge. The United States of America leads in every sphere of development, including the education system[16]. The methods mentioned below are also used in the formation of mathematical imagination and thinking in the American preschool education system. 5 ways to teach math in American kindergartens:

1. Presenting new information and doing exercises together with children;
2. Asking many questions and checking the children's answers;
3. Provision of exhibitions;
4. Guiding children during activities;
5. Pre-model difficult activities.

Chinese pedagogues consider teaching mathematics to be a specially designed activity. There are separate mathematical resources in the Chinese preschool education system:

1. Practical Chinese mathematical activities;
2. Mathematical publications and workbooks;
3. Chinese mathematical stories;
4. Chinese math videos;
5. Chinese math programs.

One of the main reasons for the development and economic growth of these countries is the consistent and systematic introduction of mathematical knowledge in the educational system.

Conclusion

International best practices in early mathematical education play a crucial role in shaping preschoolers' cognitive abilities. Each educational system aims to make learning mathematics engaging and effective through games, visual aids, social learning, and interactive activities. By adopting and integrating these approaches, preschool education can be enhanced to foster mathematical thinking in young children.

Through systematic analysis of international experiences, Uzbekistan is aligning its educational reforms with global standards. International agreements are increasingly becoming a part of national legislation, facilitating the exchange of best practices and their practical implementation[17]. These advancements ensure that preschool education remains a solid foundation for developing well-rounded, intellectually capable, and culturally aware individuals.

The ongoing improvements in preschool education are instrumental in fostering a love for learning in children, preparing them for academic success, and integrating modern technological advancements into the education system. By continually evolving and refining our pedagogical approaches, we can ensure a brighter future for the next generation.

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