

# Curriculum Reform of Preschool Education: An Innovative Path based on Gamification and Project-style Integration

Yuanqi Wang<sup>1</sup>, Tuteng Wang<sup>2</sup>

<sup>1</sup> Bank of China Limited Zhejiang Branch, 310000, China

<sup>2</sup> Xingtai Medical College, 054000, China

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**Abstract:** This paper focuses on the curriculum reform of preschool education, and expounds the importance, purpose and challenges of preschool education curriculum reform under the background of educational needs in the new era. This paper analyzes the guiding significance of multiple intelligence theory, Montessori education method, gamification and project learning to preschool education courses. It is pointed out that there are some problems of single curriculum setting, limited teaching methods and means, and the challenges of teacher staff construction and resource allocation and concept change. This paper proposes the curriculum innovation of gamification and project-style integration, demonstrates its feasibility, expounds the design principles and implementation steps of the integrated curriculum, and makes a prospect for the future.

**Keywords:** Preschool Education; Curriculum Reform; Gamification; Project-Based Learning.

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## 1. Introduction

### 1.1. Research Background

The curriculum reform of preschool education is imperative under the demand of the new era to improve the quality of education and promote educational equity. With the rapid development of the society and the continuous progress of science and technology, the requirements for the comprehensive quality of talents are getting higher and higher. As an important part of basic education, the importance of preschool education in its curriculum reform is becoming increasingly prominent. Under the current social background, preschool education curriculum reform is an inevitable choice to meet the needs of educational development in the new era. On the one hand, the rapid development of science and technology makes people pay attention to preschool education. The application of modern educational technology has brought new opportunities and challenges to preschool education, which requires the curriculum to constantly update the content and methods to better meet the learning needs of children. On the other hand, the change of social needs also promotes the reform of preschool education curriculum. Traditional preschool education has been unable to fully adapt to the development of the society. In order to cultivate children with innovative spirit and practical ability, the preschool education curriculum must be reformed (Fan and Hua, 2023).

### 1.2. Research Purpose

Explore the innovative curriculum reform path of preschool education, and cultivate well-rounded children. The purpose of preschool education curriculum reform is to provide children with better quality educational resources and promote their all-round development. By reforming the preschool education curriculum, we can optimize the curriculum setting, enrich the curriculum content, innovate the teaching methods, and improve the teaching quality. At the same time, the curriculum reform of preschool education also helps to cultivate children's innovative thinking and

practical ability, and lay a solid foundation for their future development. In the process of exploring the innovative curriculum reform path of preschool education, we need to pay attention to children's individual differences and interests, teach students in accordance with their aptitude, and provide personalized education services for each child. In addition, we also need to strengthen teacher training, improve their professional quality and teaching ability, and provide strong talent support for the curriculum reform of preschool education.

## 2. Theoretical Principle

### 2.1. Important Theories of Curriculum Reform in Preschool Education

The guiding significance of multiple intelligence theory, Montessori education method, gamification learning and project learning to preschool education curriculum is expounded.

#### 2.1.1. Application of Multiple Intelligence Theory

The theory of multiple intelligence provides a broad idea for the curriculum design of preschool education. In the kindergarten curriculum, teachers can teach in groups according to children's different intelligent advantages (Lan, 2009). For example, children with strong language ability form a story group to exercise their language expression ability by telling and creating stories; children with outstanding spatial ability participate in painting and building activities to cultivate the perception and creativity of space. This course design fully considers the individual differences of children, so that each child can give full play to the advantages in the field they are good at, and promote the development of weak intelligence through group activities. In addition, teachers can also use multiple intelligence theory to design diverse teaching methods. Children who have a strong understanding of music can learn mathematical concepts through music games, such as using rhythm to express the size of numbers (Qian, 2022). This interdisciplinary teaching method not only stimulates children's interest in learning, but

also cultivates their comprehensive ability.

### **2.1.2. The Revelations of the Montessori Educational Law**

The absorptive mind in Montessori education method provides an important reference value for the curriculum reform of preschool education. Absorptive mind emphasizes that children absorb information from the environment at the unconscious and subconscious levels, which inspires us to create a rich and suitable learning environment for children. In the layout of the kindergarten, various theme areas can be set up, such as natural corner, scientific exploration area, artistic creation area, etc., so that children can acquire knowledge in the free exploration. For example, in the natural corner, put a variety of plants and small animals, children can observe their growth process, understand the mystery of life. At the same time, teachers can guide children to record and discuss, and cultivate their observation ability, thinking ability and language expression ability (Guang, 2006).

### **2.1.3. The Value of Gamification Learning**

Gamification learning plays an important role in stimulating children's interest and cultivating their creativity. Games are children's favorite form of activities. Through games, children can learn knowledge and skills in a relaxed and happy atmosphere. For example, children can role-play, and this gamified learning style not only makes the children feel interesting, but also develops their cooperation skills, communication skills and problem-solving skills. Gamification learning can also stimulate children's creativity. In the construction game, children can build various buildings with building blocks and give full play to their imagination and creativity. Teachers can also encourage children to try different building methods to cultivate their innovative thinking (Jia, 2018).

### **2.1.4. Advantages of Project-based Learning**

Project-based learning has significant advantages in cultivating children's comprehensive ability. Project-based learning takes children as the main body, and lets children explore and learn in the real problem situation. For example, to design a situational project, children will propose solutions and put them into practice. In this process, children not only learn the relevant knowledge, but also cultivate their observation ability, the ability to analyze problems, cooperation ability and practical ability. Project learning can also promote children's independent learning and self-management ability. In the process of project implementation, children need to make their own plans, work together and cooperate, collect data and solve problems. Teachers can give appropriate guidance and support, but to let the children become the master of learning. This learning style helps to cultivate children's sense of responsibility and self-confidence, and lay a good foundation for their future study and life (Shang, Zhi and Yi, 2021).

## **3. The Present Situation and Challenge of the Curriculum Reform in Preschool Education**

### **3.1. Current Situation of Curriculum Reform in Preschool Education**

At present, the preschool education curriculum is relatively single, and the lack of comprehensive problems is more prominent. Many kindergarten programs still revolve around traditional areas, lacking the integration of emerging fields

and interdisciplinary content. For example, in today's rapid development of science and technology, it is very rare to provide programming enlightenment and popularization of basic knowledge of artificial intelligence. At the same time, the course content often focuses on the teaching of knowledge, but ignores the cultivation of children's comprehensive ability, such as critical thinking, innovation ability, cooperation ability, etc. This single curriculum is difficult to meet the diversified development needs of children, and is not conducive to the cultivation of innovative talents to adapt to the future society.

Traditional teaching methods are teacher-centered and lack of interactivity. In many kindergarten classes, teachers are still the main instructors of knowledge, and children passively accept it. This teaching method ignores the subject position of children and limits their initiative and creativity. For example, in language teaching, teachers often use a single storytelling, literacy and other ways, and lack of interaction with children. In art teaching, teachers demonstrate too much, children imitate mainly, and lack of space for independent creation. In addition, the teaching means are relatively single, and the application of modern teaching equipment is insufficient. Although some kindergartens are equipped with multimedia equipment, but the utilization rate is not high, failed to give full play to its advantages.

### **3.2. Challenges of Curriculum Reform in Preschool Education**

The necessity of improving teachers' professional quality to adapt to the curriculum reform is becoming increasingly prominent. On the one hand, teachers need to constantly update their educational concepts, change from the traditional teacher-centered to child-centered, and pay attention to cultivating children's independent learning ability and innovative spirit. However, in reality, many teachers are too influenced by traditional educational concepts to change their teaching methods quickly. On the other hand, teachers need to have interdisciplinary knowledge and skills to meet the requirements of a comprehensive curriculum setting. For example, when developing courses that integrate science and art, teachers should not only master scientific knowledge, but also have artistic literacy and teaching ability. In addition, teachers also need to continuously improve their ability to apply information technology in order to make better use of modern teaching methods. However, at present, the training system of preschool education teachers is not perfect, and it is difficult to meet the needs of improving teachers' professional quality (Sharna Olfman, 2003).

Insufficient resources and outdated ideas pose obstacles to curriculum reform. In terms of resource allocation, some kindergartens lack sufficient teaching materials and equipment to meet the needs of curriculum reform. At the same time, the allocation of resources between kindergartens is unbalanced, and high-quality resources are concentrated in a few kindergartens, which affects the fairness of education. In terms of concept change, some parents and education managers have insufficient understanding of the curriculum reform of preschool education, still pay attention to the teaching of knowledge and examination results, and ignore the all-round development of children. The existence of this concept makes it difficult for the curriculum reform to get extensive support and cooperation, which affects the process of the reform (Long, and Shuo, 2024).

## **4. Gamification and Project-style Integration of Curriculum Innovation**

### **4.1. Feasibility of Gamification and Project-style Integration**

The integration of gamification and project-based learning can greatly stimulate children's interest and initiative in learning. As children's favorite form of activities, games have the characteristics of fun, situational and interactive. When games are combined with project learning, children can learn in a fun and challenging situation. For example, in a project with the theme of "Building a zoo", children can play the roles of zoo staff and tourists through role-playing games, and learn about the layout of the zoo, the living habits of animals and other knowledge. At the same time, the task-driven nature of project-based learning can also stimulate children's curiosity and desire to explore, so that they can actively participate in learning. This fusion mode can allow children to play in the middle school, learning to play, fully mobilize their interest and enthusiasm in learning.

The integration of gamification and project-based learning has significant advantages in cultivating children's comprehensive ability. In the integration course, children need to complete the project tasks through cooperation, inquiry and other ways, which can cultivate their teamwork ability, communication ability, problem solving ability, etc. For example, in a project of "making environmental protection posters", children need to work together, some are responsible for collecting environmental protection data, some are responsible for painting, some are responsible for writing. In this process, children not only learn the knowledge of environmental protection, but also improve their teamwork and communication skills. At the same time, the gamified learning method can enable children to learn in a relaxed and happy atmosphere, and cultivate their creativity and imagination. For example, in the construction game, children can build various buildings with building blocks to give full play to their imagination and creativity. This integration mode can comprehensively improve children's comprehensive ability and lay a solid foundation for their future development (Walker, 2003).

### **4.2. Design and Implementation of Integrated Courses**

#### **4.2.1. Design Principles**

The design of integrated courses should follow the principles of scientificity, appropriateness and development. The scientific principle requires that the course content conforms to the law of children's cognitive development and education and teaching, and can provide children with accurate and systematic knowledge and skills. For example, when designing courses that integrate science and art, ensure the accuracy of scientific knowledge and the rationality of artistic expression. The principle of suitability requires that the course content and teaching methods are suitable for children's age characteristics and individual differences, and can meet the learning needs of different children. For example, for small class children, simple games and projects can be used to cultivate their observation and practical ability; for large class children, it can increase the difficulty and challenge, and cultivate their ability to analyze and solve problems. The developmental principle requires that the

curriculum can promote children's overall development, not only to children's knowledge and skills, but also to the cultivation of children's emotions, attitudes and values. For example, in the integrated curriculum, children's teamwork spirit and social responsibility can be cultivated through group cooperation projects.

#### **4.2.2. Implementation Steps**

The implementation of integrated courses can be divided into four steps: project selection, project planning, project implementation and achievement presentation. First of all, in the project selection stage, teachers should choose the appropriate project theme according to the children's interests and development needs. For example, you can observe the children's game activities and communicate with their children to understand their interest points, and then choose the project theme related to them. Secondly, in the project planning stage, teachers should make project plans together with children, and clarify the project objectives, task division, time arrangement, etc. In this process, we should give full play to the main role of children, and let them actively participate in the project planning. Then, in the implementation stage of the project, children should conduct cooperative exploration according to the project plan, and teachers should give appropriate guidance and support. In the implementation process, we should pay attention to cultivating children's problem-solving ability and innovative thinking, and encourage them to try different methods and approaches. Finally, in the achievement display stage, children can show their project results by showing their works and reporting their performances. This process can not only let children experience the joy of success, but also improve their confidence and expression ability.

## **5. Problems and Improvements**

In practice, you may also encounter some problems. For example, some teachers do not have a deep understanding of gamification and project integrated teaching model, which have a tendency of formalization in the curriculum implementation process; some parents have doubts about the new teaching model and worry about their children's learning effect. For these problems, the following improvements can be taken:

First, strengthen teacher training to improve teachers' understanding and understanding of gamification and project-based integration teaching mode. By organizing special lectures, teaching observation, case analysis and other activities, teachers can have an in-depth understanding of the design concept, implementation methods and evaluation standards of the integrated curriculum. At the same time, teachers are encouraged to actively explore and innovate, combined with the actual situation of the children in the class, the design of characteristic curriculum projects.

Second, strengthen communication with parents, so that parents understand the advantages and value of gamification and project-style integrated teaching mode. Through parents 'meetings, parents' Open Day, parent-child activities and other forms, parents can personally experience the teaching process of integrated courses, and feel their children's growth and progress in the project. At the same time, parents are invited to participate in the curriculum design and evaluation, listen to parents' opinions and suggestions, and jointly promote the development of children (Ya et al., 2021).

## 6. Conclusion and Outlook

The reform of preschool education curriculum integrating gamification and project-style can achieve remarkable results. First of all, this fusion mode greatly stimulates children's learning interest and initiative. Children learn in the situation full of fun and challenges, actively participate in the project tasks, and realize the learning and learning in play. Secondly, to cultivate children's comprehensive ability. Through cooperation, inquiry and other ways to complete the project tasks, children's teamwork ability, communication skills, problem solving ability, creativity and imagination have been comprehensively improved. Moreover, the design and implementation of the integrated curriculum follows the principles of science, suitability and development, ensuring that the course content conforms to the laws of children's cognitive development and education and teaching, is suitable for children's age characteristics and individual differences, and promotes the overall development of children.

The future research of preschool education curriculum reform can be further deepened from the following directions. First, to deeply study the specific strategies and methods of gamification and project-type integration. Explore how to better integrate game elements into project-based learning, and how to choose appropriate game forms and project tasks according to different project themes and children's characteristics, so as to further improve children's learning effect and comprehensive ability. Second, to strengthen the research on teachers' professional development. Teachers play a key role in curriculum reform. In the future, we should study how to improve teachers' understanding and application ability of gamification and project-style integrated teaching mode through more effective training and professional development activities, and improve teachers' education and teaching level and innovation ability. Third, pay attention to the role of home cooperation in the curriculum reform. Strengthen communication with parents, improve parents' understanding and support for curriculum reform, and jointly promote the development of children. We can study how to establish a closer home cooperation mechanism, so that parents can better participate in the process of preschool education. Fourth, combined with the development of science and technology, and constantly introduce new educational technology and resources. With the continuous progress of science and technology, we can study how to apply virtual reality, augmented reality and other new technologies to preschool education courses in the future, so as to provide

children with more rich and diversified learning experience. Fifth, to strengthen the research on the evaluation system of preschool education curriculum. The establishment of a scientific and comprehensive curriculum evaluation system should not only pay attention to children's knowledge and skills, but also pay attention to evaluating the development of children's emotions, attitudes and values, as well as teachers' teaching effect and professional growth, so as to provide strong feedback and guidance for curriculum reform.

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