

The Educational Value, Implementation Principles, and Integration Pathways of Traditional Puzzle Games in Early Childhood Education

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Abstract: With the continuous development of modern educational concepts, the value of traditional puzzle games in preschool education has gained increasing recognition. This paper explores the significance, principles, and practical implementation approaches of integrating traditional puzzle games into early childhood education by analyzing their crucial role in children's physical and mental development, intellectual cultivation, and cultural heritage preservation. The study reveals that traditional puzzle games not only stimulate children's learning interest and enhance their hands-on abilities and social development but also help them understand local culture and strengthen cultural identity. However, challenges such as insufficient resources and limited teacher awareness persist in practical applications. Therefore, this paper proposes strategies such as resource integration, innovative game adaptation, and home-kindergarten collaboration to promote the effective incorporation of traditional puzzle games into preschool education.

Keywords: Traditional puzzle games; Preschool education; Value; Principle; Path

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1. Introduction

The Guidelines for Improving Education on Chinese Excellent Traditional Culture issued by the Ministry of Education explicitly emphasizes the integration of outstanding Chinese folk culture into curricula and educational systems^[1]. As a vital component of China's traditional cultural heritage, folk traditional puzzle games carry profound educational value and cultural significance. These games, serving as vessels of cultural wisdom, not only embody sophisticated logical thinking and problem-solving strategies but also captivate learners with their unique charm^[2].

Forged through centuries of historical accumulation and folk ingenuity, these games transcend mere entertainment, fostering multifaceted development in children. With rapid societal advancement, early

childhood education has progressively shifted from knowledge-based instruction to holistic development, emphasizing the cultivation of comprehensive competencies in young learners. However, the application of traditional puzzle games in kindergartens faces significant challenges, including the proliferation of modern technology and constraints on educational resources.

This study aims to explore the educational value, implementation principles, and practical pathways for incorporating traditional puzzle games into kindergarten education, thereby providing actionable insights for early childhood educators.

2. The value of traditional puzzle games in kindergarten education

2.1. Promote the healthy physical and mental development of children

Traditional puzzle games typically feature simplicity and fun, making them appealing to young children who can actively participate. For example, “Tangram” pieces, when assembled into different shapes, not only enhance children’s manual skills but also improve their spatial cognition. Additionally, puzzle games can boost physical coordination and flexibility in children, such as “Hopscotch” and “Kicking Shuttlecock.” In terms of physical development, traditional folk puzzle games promote the coordinated development of both large and small muscle groups in children. For instance, “Hopscotch” helps develop balance and lower limb strength; “Flower Rope Toss” trains fine motor skills and hand-eye coordination. Mathematical literacy is crucial for lifelong development. Integrating mathematical activities with traditional board games can effectively promote the growth of children’s mathematical abilities ^[3]. These physical activities are not only conducive to the healthy development of children’s physical health, but also promote the development of the brain’s nervous system, laying a foundation for subsequent learning.

2.2. Cultivate children’s sociality and cooperation consciousness

In terms of social and emotional development, traditional folk puzzle games provide young children with rich social opportunities and emotional experiences. These traditional puzzles often require multiple people to work together, which not only helps improve the physical fitness of young children but also fosters their sense of cooperation and social interaction skills. Many games like “Hot Potato”, “Hopscotch”, and “Eagle Catching Chicks” require teamwork, allowing children to learn social skills such as following rules, taking turns, and working in groups during play. At the same time, the experience of success in these games can boost children’s confidence, while facing failure can cultivate their resilience. Through interactions with peers, children learn to share, understand rules, and develop a spirit of teamwork. These social and emotional skills are crucial for their future school adaptation and the establishment of interpersonal relationships.

2.3. Stimulate children’s creativity and imagination

Traditional folk puzzle games, with their open gameplay and rich cultural connotations, provide a unique space for the development of children’s creativity and imagination. These games often lack fixed answers, instead encouraging children to explore freely and express themselves in diverse ways within the framework of rules. For example, the “Tangram” game stimulates creative thinking through the infinite combinations of geometric shapes; children can piece together animals, buildings, and various other images, continuously breaking conventional thinking patterns. The “Story Chain” game, on the other hand, promotes language interaction, allowing children to freely imagine within a set plot, constructing stories that are boundless and

imaginative. Traditional puzzle games typically have an open nature, permitting children to explore and create independently. For instance, games like “Flower Twisting” and “Nine Linked Rings” encourage children to try different solutions, thereby stimulating their creativity and imagination.

2.4. Inherit local culture and enhance cultural identity

The combination of folk games and early childhood education can not only let children experience the happiness of games, but also guide children to inherit the excellent traditional Chinese culture ^[4]. Traditional puzzle games carry rich regional cultural connotations, such as “jump rope” and “hopscotch”, which reflect the folk culture of southern China. These games embody the historical memory, values, and aesthetic tastes of the Chinese nation, subtly passing on traditional culture to the next generation through play. Children not only gain knowledge and skills from these games but also experience the charm of traditional culture, fostering a sense of cultural identity and national pride.

3. The principle of integrating traditional puzzle games into kindergarten education

3.1. The principle of age-appropriateness

The principle of age-appropriateness requires selecting appropriate games based on the developmental characteristics and needs of children at different age stages. For example, children aged 3–4 are suitable for simple rule games with low action requirements, such as “finger rhymes” and “clapping songs”, while children aged 5–6 can try more complex games that require strategic thinking, like “Go enlightenment” and “nine-link rings.” The difficulty of the game should be slightly higher than the child’s current level to create an appropriate challenge, but not too difficult to avoid causing frustration. Traditional puzzle games should be adjusted according to the age characteristics of the children. For instance, younger children in the small class are suited for simple, highly combinable games, such as “Tangram”; middle-class children can attempt slightly more complex puzzle games; and older children can participate in logical reasoning games.

3.2. The principle of interest guidance

Teachers should fully consider the interests and needs of young children, integrating elements they enjoy into games. For example, in the “Eagle Catching Chicks” game, adding role-playing where children play as eagles or chicks can boost their participation enthusiasm. On one hand, different types of traditional games should be selected, including language-based, action-based, and strategy-based games, to meet the diverse developmental needs of children; on the other hand, traditional games can be appropriately adapted and innovated according to modern educational concepts and the characteristics of young children, making them more aligned with contemporary children’s interests and learning needs.

3.3. Principle of hierarchy

When integrating traditional folk puzzle games into kindergarten education, it is essential to follow the principle of hierarchy. This means designing the difficulty, rules, and interaction methods of the games scientifically based on children’s age characteristics, cognitive levels, and developmental needs, creating a progressive development gradient to maximize the educational value of the games. The core of the hierarchy principle lies in gradual progression, which must align with the children’s zone of proximal development while ensuring the fun and challenge of the games. Teachers should flexibly adjust the game difficulty according to individual

differences among children, avoiding a one-size-fits-all approach. At the same time, the content and form of the games can be progressively deepened as children's abilities improve, such as transitioning from simple "Tangram puzzles" to more complex "Nine Linked Rings puzzles", thereby achieving a spiral upward development in cognitive skills and social-emotional growth. For example, in the "Flower Rope Tossing" game, teachers can first teach the basic gameplay and then guide children to try more intricate patterns.

3.4. The principle of cultural inheritance

The principle of cultural inheritance emphasizes the integration and explanation of traditional culture during the game process. Teachers should not only teach the rules of the game but also introduce its historical origins, cultural significance, and related folk knowledge. When selecting and designing educational games, it is important to explore their cultural connotations and incorporate them into teaching activities. For example, when playing "Guess the Lantern Riddle", one can explain the traditional culture of the Lantern Festival; when playing "Tossing the Arrow", ancient etiquette can be introduced; and in "Hopscotch", local patterns and stories can be added to allow children to experience the charm of culture while having fun. Through these methods, children can feel the allure of traditional culture through games and enhance their cultural identity.

4. The path of integrating traditional puzzle games into kindergarten education

4.1. Course integration and rich game content

Curriculum integration is the most direct approach, allowing folk games to be organically incorporated into the five major areas of kindergarten education. In the health domain, games like "jump rope" and "throwing sandbags" can be introduced to develop children's motor skills; in the language domain, games such as "riddles" and "story chain" can be used to foster language abilities; in the science domain, activities like "Tangram" and "Huaron Path" can enhance spatial cognition and logical thinking; in the social domain, role-playing and traditional festival games can deepen cultural understanding; in the arts domain, folk song and dance games and craft activities can cultivate aesthetic appreciation. Teachers can adapt and innovate traditional educational games based on children's interests and needs. For example, adding musical elements to the "hopscotch" game can make it more engaging.

4.2. Cooperate and participate in game activities together

The Guidelines for Kindergarten Education (Trial) points out that kindergartens should cooperate closely with families and communities, make comprehensive use of various educational resources, and jointly create good conditions for children's development ^[5]. Home-community collaboration can expand the space and resources for game implementation. Kindergartens can introduce the value and play methods of traditional games to parents through parent meetings and workshops, encouraging families to engage in parent-child traditional game activities. Organizing events such as "Traditional Game Day" and "Parent-Child Garden Parties" can enhance interaction between home and kindergarten. Collaborating with community cultural centers, museums, and other institutions to conduct traditional game experience activities is also beneficial. Utilizing the resources of elderly residents in the community, inviting them to play with children in the kindergarten can facilitate intergenerational cultural inheritance. Teachers can invite parents to participate in the design and implementation of educational games, such as organizing parent-child activities like "Nine Linked Rings", to strengthen cooperation between families and kindergartens. Parents can provide materials for traditional

educational games at home and encourage children to explore independently.

4.3. Create a suitable game environment

The creation of an environment is a crucial support for the development of traditional educational games. Kindergartens should design suitable game areas based on the characteristics of these games. They should establish dedicated traditional cultural game zones, equipped with various traditional game materials and tools, such as Go, Chinese chess, nine-linked rings, and diabolo. Walls can be decorated with pictures and descriptions related to traditional games to create a rich cultural atmosphere. Outdoor spaces can be planned for traditional game areas, like hopscotch grids and arrow-throwing fields. At the same time, modern multimedia technology can be used to create virtual game environments, allowing children to experience digital traditional games through interactive screens. Teachers should use verbal guidance and emotional encouragement to create a relaxed and enjoyable game atmosphere, stimulating children's enthusiasm for participation.

4.4. Teacher professional development and training

Teacher professional development is key to the effective implementation of traditional educational games. Kindergartens should organize teachers to learn about the cultural background and educational value of traditional educational games, enhancing their understanding of these games. Through regular training, teachers' game design skills and teaching techniques can be improved. The content of specialized training on traditional educational games should include learning the rules of traditional educational games, analyzing their educational value, and discussing teaching strategies. Encourage teachers to conduct action research, exploring ways to integrate traditional educational games with modern educational concepts. Establish teacher learning communities to share experiences in traditional game teaching and innovative practices. At the same time, invite folk artists and intangible cultural heritage bearers to provide guidance at kindergartens, improving teachers' cultural literacy and game guidance abilities.

5. Conclusion

Traditional folk puzzle games, as cultural treasures of the Chinese nation, possess unique educational value and cultural significance. Integrating them into modern early childhood education systems not only promotes the comprehensive development of young children but also effectively carries forward excellent traditional culture. The educational value analysis, integration principles, and implementation paths proposed in this article provide a systematic theoretical framework and practical guidance for early childhood educators. However, it is important to note that the integration of traditional games should not be a simple revival or direct replication; instead, it should involve creative transformation and innovative development based on respect for tradition, making them more suitable for the learning characteristics and needs of contemporary young children. Future research can further explore the educational applications of distinctive traditional games from different regions and innovative models of integrating modern technology with traditional games, offering more possibilities for the living inheritance of traditional culture.

Disclosure statement

The authors declare no conflict of interest.

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