

Gamified Teaching Design for Early Childhood Musical Literacy: A Concept Paper

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Abstract

Early childhood music literacy education is a crucial part of arts education. Quality music teaching fosters the holistic development of young children's physical and mental well-being. Orff Schulwerk, the Kodály Method, and Dalcroze Eurhythmics, as three renowned contemporary music education systems, provide more possibilities for gamified teaching in early childhood music literacy. This study uses activity-based lesson designs to showcase diverse music teaching methods. It emphasizes that early childhood music teachers should leverage the strengths of these three major methods and consider the developmental characteristics of preschool children to design suitable music activities. This approach allows children to "learn through play," integrating gamified thinking into music teaching.

Keywords: Early Childhood Music Activities, Musical Literacy, Gamified Teaching, Learn Through Play, Music Teaching

Introduction

The "Guidelines for Kindergarten Education (Trial)" issued by the Chinese Ministry of Education emphasizes that the content of kindergarten education should be comprehensive and enlightening, with various domains interpenetrating each other to promote the holistic development of children's emotions, attitudes, abilities, knowledge, skills, etc (Lv, 2022). In the "Kindergarten Work Regulations" implemented since 2016, Article 25 explicitly states: "Following the laws of children's physical and mental development, in accordance with the age characteristics of children, paying attention to individual differences, teaching according to individuals, guiding the healthy development of children's personalities, ... fully leveraging the interaction of various educational methods. Creating a good environment suitable for education, providing opportunities and conditions for children's activities and performance abilities. Taking games as the basic activity, integrating education into various activities" (Zou, 2021). Its guiding ideology coincides with the educational principles of Orff, Dalcroze, and Kodály music teaching methods.

The "Three Major Music Teaching Methods" all adhere to the principle of putting children at the center, respecting the individual development of children as a prerequisite, focusing on the genuine experiences of children participating in music activities, stimulating their potential through rich music teaching activities, and guiding children to express their feelings and thoughts courageously (Martins et al., 2023). Therefore, the "Three Major Music Teaching Methods" are the inevitable choice for implementing gamified musical literacy

education in kindergartens, playing a very important role in training children's comprehensive development. Their teaching philosophy is highly compatible with the current requirements for early childhood music education and also provides practical guidance for the organization and implementation of music teaching activities.

Nowadays, Chinese kindergartens generally have a basic understanding of the "Three Major Music Teaching Methods," realizing the important role of teaching methods in early childhood education and providing comprehensive teaching materials and teaching aids during the process (Zhang, 2020; Han, 2019). At the same time, in the process of applying the "Three Major Music Teaching Methods," music teachers for young children can not only enrich music teaching activities and improve their own musical literacy and comprehensive abilities (May et al., 2016). On the other hand, they can also improve the quality of music classroom teaching in a gamified form through the application of these teaching methods, and further stimulate children's interest in music comprehensively (Habron & Van Der Merwe, 2020; Landis & Carder, 1992), thereby better achieving the training objectives of music activities.

Literature Review

In the late 19th and early 20th centuries, the "Three Major Music Teaching Methods" emerged, each with its own characteristics due to different historical and cultural backgrounds, but they are interrelated in terms of teaching content and methods (Zou, 2021).

The Orff Music Teaching Method integrates language skills, singing performance, body movement, and instrumental performance forms. It transitions from nursery rhyme recitation to word substitution, gradually incorporating song singing and dynamics, and finally using Orff instruments suitable for children to achieve teaching objectives (Orff, 1958; Hao & Zhang, 2022).

The Dalcroze Teaching Method is based on auditory perception, allowing students to use their bodies as instruments and reproduce the music they hear through bodily rhythms. This method trains improvisational performance, performance, and creative abilities through music and bodily rhythms (Habron et al., 2020; Dalcroze & Rubenstein, 1967).

The Kodály Music Teaching Method emphasizes the role of singing and considers the human voice as a natural instrument. It utilizes various methods such as solfège, Kodály hand signs, rhythm reading, and letter notation to enable students to learn rhythm, pitch, and melody from singing. It guides students to learn complete songs effectively and strengthens the development of musical sensitivity (Bowyer, 2015; Ibbotson & See, 2021).

For 3-4-year-old children, it is challenging to maintain long periods of concentration, as their attention span is limited, and they are in an active and energetic age characterized by strong curiosity. Their attention is more easily drawn to interesting things, and they are easily distracted. Gamified teaching methods are more effective in guiding children to feel the strength and weakness of musical beats, the speed of music, and the high and low pitches. Through games, children unconsciously promote the development of their musical knowledge (Li, 2022).

Li (2012) pointed out that starting from the theory of games, research has shown that conducting game activities has positive significance and value for the cognitive development and social behavior norms of young children. Therefore, it is necessary to carry out musical games.

Zong (2016) believes that when conducting activities among young children, the focus should be on content memorization. Based on this experiential foundation, it is essential to

select short and lively music suitable for young children, enabling them to learn knowledge and enhance cognitive experience during activities. In the educational process, it is essential to stimulate children's curiosity and creativity, promoting the harmonious unity of music education.

Ge (2017) categorizes music games into rhythm games, singing games, performance games, and percussion games. Through practice, it was found that children's participation in music rhythm games is higher compared to traditional rhythm games, making learning more proactive.

Yang (2020) believes that when selecting music game content for children, it should be simple and easy to understand, focusing on stimulating children's potential interest and ability in music. When choosing music games, the content should be lively in melody, strong in rhythm, and the actions should be simple and easy to learn. Music teaching for children does not start with music classes but with games. It is important to let music enter from within, and most importantly, to let children play and perform from their own hearts.

This study will be based on the guiding ideology of art education in the Kindergarten Education Guideline and the characteristics of psychological development of children aged 3-6, combined with the unique features of the "Three Major Music Teaching Methods." Specific gamified music teaching activities will be designed to serve as reference and inspiration for subsequent researchers.

Methods and Conceptual Analysis

The commonality among the "Three Major Music Teaching Methods" is their advocacy for music education to prioritize game activities. They all believe that the beginning of learning music skills should start with teaching rhythm and beats. In the teaching process, teachers should guide children to listen to music melodies, feel the charm of music, experience the joy of music, and encourage children to engage in music improvisation activities. This practice-based teaching method, preceding theory, is not only conducive to the development of children's music abilities but also serves as a good start for children's music enlightenment education.

However, the differences lie in the fact that the "Three Major Music Teaching Methods" have their own educational focuses and teaching steps. Dalcroze Music Teaching Method emphasizes teaching through body movements. During the teaching process, children listen to music while making movements with their bodies, internalizing music into internal musical perception, and ultimately combining music with improvised physical expressions to unleash their creativity. Orff Music Teaching Method focuses on the ability to transform between language, rhythm, and motor perception. Kodály Music Teaching Method emphasizes singing, rhythm cognition, and vocal memory abilities. Below are examples of the same music activity demonstrated using each of these different teaching methods:

Teaching Activity Example: "Little Mouse"

li—ttle mou—se, on the oil lamp, stole oil to eat, can't go down.

meow meow, cat shows up, ji li gu lu falls down there.

1. The process of Dalcroze Music Teaching Activities

The Dalcroze music teaching method emphasizes the principle of practice preceding theory, meaning that children are taught rules after experiencing the things they are supposed to learn (Habron & Van Der Merwe, 2020). Movement and rhythm are the primary teaching tools of this method. By using the physical characteristics of different animals, children are encouraged to use their imagination to combine music rhythms with movements, allowing them to feel the changes in the durations of different musical notes through bodily expressions.

In this class, the teacher can lead the children to mimic the movements of different animals according to the rhythm of the music. For example, during the parts with eighth notes, the children can mimic the bouncy movements of a little mouse, hopping forward. During the quarter note sections, they can mimic the stealthy and slow movements of a cat. And during the sixteenth note sections, they can imitate the frantic movements of a nervous little mouse, taking quick, tense steps. The specific design is as follows:

Table 1

Dalcroze Music Teaching Activity Process

Music Presentation Section	Activity Methods	Activity Objectives
<p>li-ttle mou-se, on the oil lamp, stole oil to eat, can't go down.</p>	1. Imitate a little mouse, mischievously hopping forward.	1. Feel the duration of the eighth note.
<p>meow meow, cat shows up,</p>	2. Imitate a kitten, walking quietly and slowly.	2. Feel the duration of the quarter note
<p>ji li gu lu falls down there.</p>	3. Imitate a little mouse, scurrying nervously with small steps.	3. Feel the duration of the sixteenth note.
	4. Listen to different musical rhythms and perform corresponding actions, then divide into groups for action demonstrations.	4. Combine auditory perception with movement.

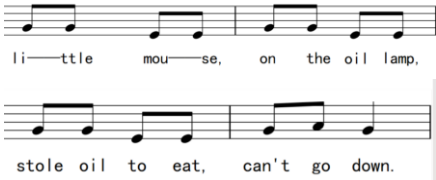

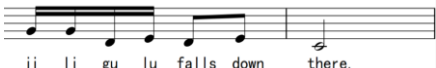
Orff Music Teaching Activity Process

Orff Music Education emphasizes the perception of rhythm and melody in children through recitation of nursery rhymes, gradually incorporating vocal training, and then combining language with dance (Orff, 1958). It views children as active participants in music education activities rather than mere observers. It guides children to experience music, express and communicate their authentic feelings through musical games and instrument playing, and enjoy the process of creation.

In music literacy classes, teachers can guide children to recite lyrics while simultaneously imitating the movements of mice and cats. Then, they can encourage children to replace words like "mouse" and "cat" in the lyrics with onomatopoeic words like "la la" and

"meow" or incorporate clapping to express rhythm through vocal or linguistic means. Gradually, the number of substituted words or actions can be increased, guiding children from reciting nursery rhymes to language and vocal training. Through this process, they will naturally progress to learning songs, combining vocal actions with melody, and integrating them with instruments to complete the entire game activity. The specific design is as follows:

Table 2
Orff Music Teaching Activity Process

Music Presentation Section	Activity Methods	Activity Objectives
little mouse, On the lamp, Stole oil to eat, Can't go down. Meow meow, Cat shows up, Ji-li-gu-lu, falls down there.	1.Integrate auditory perception with movement. 2.Replace key words or characters in nursery rhymes with fixed actions or onomatopoeic words, such as: "little mouse" become "lulu" or "lala" , "Ji-li-gu-lu" becomes clapping, etc. 3.Gradually increase the number of replaced words or actions, with any words not replaced being read silently.	1.Use recitation as the foundation, with nursery rhymes serving as the basis for children's music learning, reflecting the characteristic of "inherent music". 2.The teacher replaces key words with vocal expressions or onomatopoeic words, expressing rhythm through vocal or linguistic means. 3.Transition from reciting nursery rhymes to training in language and vocal expressions.
	4.Introduce music for singing, guiding children to elongate their movements while transforming nursery rhyme recitation into specific melodies.	4.Base learning songs on recitation. 5.Combination of vocal expressions and melody. 6.Transition between vocal expressions and instruments.
	5.Perform vocal expressions or onomatopoeic actions while singing according to the previously replaced expressions.	7.Integrate language, vocal expressions, and instrument playing to complete game activities.
	6.Interchange Orff instruments with vocal expressions or onomatopoeic actions. 7.Add accompaniment with fixed melodic	

patterns, enabling group collaboration for performances and incorporating training in multiple parts.


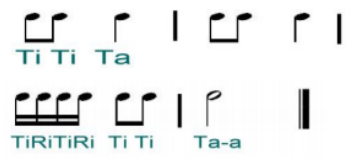
Kodály Music Teaching Activity Process

Kodály music education emphasizes using rhythm and beat instruction as a starting point, employing methods such as rhythm notation, solfège, and Kodály hand signs to help children experience changes in rhythm and pitch (Choksy, 1981; Houlahan & Tacka, 2008).

In music literacy classroom activities, teachers can present rhythm notation alongside solfège and demonstrate Kodály hand signs. The teacher can insert a greeting musical phrase according to the rhythm notation and sing, "Hello, everyone," and the children respond with the same pitch and rhythm. Subsequently, while singing, the teacher correlates the solfège with hand signs, allowing children to feel the relationship between pitch and rhythm. Then, the teacher combines rhythm notation with rhythmic reading, guiding children to experience variations in rhythmic patterns. Finally, the teacher integrates rhythm notation with solfège and Kodály hand signs, incorporating melodic pitch into rhythmic patterns, completing the learning of the song. The specific design is as follows:

Table 3

Kodály Music Teaching Activity Process

Music Presentation Section	Activity Methods	Activity Objectives
	<p>1. Greetings: Display rhythm notation and mark out the solfège. The teacher sings, "Hello, everyone," and the children respond with the same pitch.</p> <p>2. The teacher uses Kodály hand signs for "s, m" to demonstrate pitch ;</p>	<p>1. By combining rhythm notation with solfège, and employing call-and-response format, lay the foundation for training in two-part harmony.</p> <p>2. Singing while corresponding to solfège and hand gestures, feel the relationship between pitch.</p>
	<p>3. Present different rhythm notations and have children read the rhythm patterns aloud and imitate teacher-student rhythm patterns.</p> <p>4. Add solfège to existing rhythm notations and sing together with teacher-student.</p>	<p>3. Combine rhythm notation with rhythmic reading to experience variations in rhythmic patterns.</p> <p>4. Combine rhythm notation with solfège, integrating melodic pitch into rhythmic patterns.</p>

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| 5. While singing together, use Kodály hand signs to indicate pitch. | 5. Train pitch variations through Kodály hand signs. |
| 6. Introduce lyrics, sing while observing the musical notation and teacher's gestures. | 6. Present comprehensive diagrams, integrating rhythm, rhythmic reading, solfège, and gestures, to complete the song learning process. |

Discussion and Conclusion

The three major music teaching methods all advocate for using game activities as the primary approach to music education, considering the learning of musical abilities should begin with rhythm and beat instruction. Throughout the teaching process, teachers should guide children to listen to music melodies, experience the charm of music, and enjoy the fun of music, encouraging them to engage in musical improvisation activities. This practice-before-theory teaching method not only benefits the development of children's musical abilities but also serves as a good start for their musical enlightenment education. However, the differences lie in the emphasis and teaching steps of each method. The Dalcroze Music Teaching Method focuses on teaching through bodily movements, guiding children to internalize music as an inner musical sense while listening to music and expressing it through improvised bodily movements, thus unleashing their creativity. On the other hand, the Orff Music Teaching Method emphasizes the ability to transform between language, rhythm, and kinesthetic perception. The Kodály method focuses on singing, rhythm cognition, and abilities such as pitch recognition and memory.

Currently, Chinese kindergartens have complete infrastructure conditions. 80% of kindergartens have independent music activity rooms and teaching aids, and they can achieve the goals of music education activities through multimedia teaching methods, providing favorable conditions for the practical application of the three major music teaching methods (Zou, 2021).

Throughout the entire teaching activity, the principle of "children first, teachers second" is integrated into each step. Teachers also respect the children and provide them with ample opportunities to express themselves. The gamified teaching forms of the three major music teaching methods in music literacy curriculum activities fully stimulate children's intrinsic motivation, allowing children to participate in activities spontaneously and increase their sense of autonomous experience. Moreover, as much as possible, opportunities are provided for children to express and create, allowing them to participate in music activities through movement, singing, and instrumental music, engaging in music activities with multiple senses, experiencing changes in music breathing, and fully unleashing their imagination to imitate and create, enabling children to immerse themselves in the world of music both physically and mentally. Through repeated interactive activities with music, children learn to develop a correct and positive understanding of music and gradually learn to express themselves and express life through music.

Games are the primary channel for children to understand the world and society. Therefore, the gamified design of music teaching activities serves as a good example in music education, allowing children to gradually cultivate their ability to discover and feel life from

familiar games, stories, and surroundings. Moreover, frequent group cooperation in activities such as instrumental ensemble and collaborative performances is beneficial for cultivating children's collective consciousness, solidarity, and cooperation awareness, as well as further understanding the relationship between self and society.

Research suggests that using a gamified teaching model in routine kindergarten activities can establish a positive connection between games, music, and life for children, enhancing the fun of music activities and enabling children to understand music and love life through experiencing music activities. At the same time, it can sow the seeds of music in children's hearts in a way that they enjoy, laying a good foundation for subsequent music education.

This research makes significant theoretical and contextual contributions to the field of early childhood music education. The integration of the Orff Schulwerk, Kodály Method, and Dalcroze Eurhythmics into a gamified teaching approach offers a novel perspective on how music literacy can be effectively imparted to young children. By emphasizing the principles of learning through play and holistic development, this study aligns with and expands upon existing educational frameworks. The practical implementation of these methods in Chinese kindergarten settings highlights the adaptability and relevance of these approaches across diverse cultural and educational contexts. This research not only reinforces the importance of interactive and experiential learning in fostering children's musical abilities but also provides valuable insights into the design and execution of effective music education programs. Ultimately, it underscores the role of music education in nurturing children's overall cognitive, emotional, and social development, paving the way for future studies and applications in early childhood education.

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