

Evaluating the Effectiveness of Do-Re-Mi Music Education in Enhancing Core Literacy Skills among First-Year Primary Students in Shangrao, Jiangxi Province

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Abstract

This study investigates the impact of the Do-Re-Mi music education program on the development of core literacy skills among first-year primary school students in Shangrao, Jiangxi province, China. Despite national efforts to integrate music into primary education, many rural and under-resourced regions face challenges in implementation, including limited funding, inadequate teacher training, and lack of culturally relevant materials. Using a purely quantitative research design under the Design and Development Research (DDR) framework, the study involved a sample of 60 students who participated in standardized tests assessing their literacy skills. Pearson correlation analysis was used to explore the relationships between the four key literacy dimensions. The results underscore the potential of music education to act as a catalyst for literacy development, especially in regions where traditional educational approaches may fall short. The study concludes by recommending policy attention to music teacher training, resource allocation, and curriculum integration.

Keywords: Music Education, Core Literacy, Primary School, Do-Re-Mi Program, Jiangxi China

Introduction

Past studies that examine music education in China are highly generalized, and this implies they focus on primary school music programs across diverse areas in China (Leung & Zhang, 2022). Among the reviewed studies, there is dearth in empirical studies that accurately examine the relationship between music education and core literacy development in China. The majority of Chinese studies reviewed do not clearly present the effects of music programs

on core literacy skills, particularly among the primary school learners (Zhang, 2020; Yuan et al. 2021). The present study fills the above gaps by examining the impact of music education on core literacy skills in primary school students, focusing on primary schools situated in Shangrao, Jiangxi province.

Developing a Do-Re-Mi music education program to enhance first-year primary students' core literacy possess difficulties. Hence, there are notable problems found. First, making sure that there is a unified integration of a Do-Re-Mi music education program in the context of Jiangxi China is a notable concern. The presence of resistance within the school environment and outside of the school is a problem that ought to be addressed in order to develop the music program. There are issues emerging from educators who are not fully supportive of the idea, as well as how the program should be developed to meet the growing needs of students (Yang, 2023). Successful acceptance of the music education program depends wholly on effectively training first-year primary school teachers in music education and its incorporation with core literacy skills. This implies that overcoming the possible resistance among teachers, especially those lacking previous experience in music education is a notable obstacle. A study by Yuan et al. (2021) found that the implementation of new programs often affects students in numerous ways. For instance, some students lack diversified music teaching methods, which implies that their musical ability is low.

From a comparative perspective, there are other provinces in China that have incorporated music programs within their schools' curriculum. For instance, Guangdong Province has a rich cultural history and music initiatives contributes massively in the learning process (Chen, 2021). The music programs in this province focus on numerous activities, including music theory, singing, and instrumental instructions. The presence of music institutions that provide advanced training regarding music education is exceptional. Further, the provision of adequate resources in this province, including music teachers and learning materials for music programs is an added advantage. Hence, a comparison of literacy outcomes between Guangdong and Jiangxi can inform about how diverse factors affect the success of music programs.

Another challenge is that of limited resources. The lack of adequate resources, such as funding, musical instruments, learning materials, and poor infrastructure are some of the problems that hinder the successful development of the Do-Re-Mi Music Education Programs. The lack of adequate funding is a major problem that hinders the development of the program. In this case, financial constraints interferes with teachers' training and music education program execution (Yu, 2022). This challenge can easily affect the quality of educational experience delivered to the students. Without enough musical instruments, first-year students' may not have the desired hands-on experience, and this may compromise the success of the music program. Further, the lack of adequate learning materials, including sheet music, textbooks, and music-related resources can obstruct the complete delivery of the program. Poor infrastructure, such as small classrooms and unsuitable facilities for music education can also affect the desired factors of developing the program.

In the current Chinese educational landscape, the refinement of core literacy skills among primary school learners remains as a core objective. Major proficiencies in writing, reading, and listening serve as a catalysts for primary school students' success, offering them with vital

tools for continued learning (Leung & Zhang, 2022). Nonetheless, music education and the pursuit of core literacy skills in Chinese primary schools has a fair share of challenges, especially when assessing the costs or expenses incurred when implementing music programs. The challenges increase when trying to engage primary school students actively in the music learning process. Chinese traditional strategies to music literacy education tend to grapple to acquire the attention desired for primary school students. The importance of music education is appreciated, especially in Shangrao, Jiangxi province. However, the common challenge is that many primary schools in this region struggle with budget constraints. The lack of modern music resources, including textbooks and suitable technologies to support music education make it difficult for the educators.

Music education and curriculum in primary schools in Shangrao, Jiangxi province can be considered as epitomes of mainstream values and cultural practices. However, the challenge is that Chinese ethnic minorities in the region are not well-represented in the school teaching materials (Pang, 2019). For instance, most of the music teaching materials used by teachers in the region do not reflect the interests of the minority groups in the population of diversity. A notable issue with music teaching materials involves the representation of ethnic groups, which tends to be politicized. Often, Chinese minority cultures are minimized to a limited number of symbols, especially during music classrooms. For instance, in the classroom settings, music chosen to depict ethnic cultures misrepresent reality by portraying ethnic minority people and students as happy with their lives. Such stereotyped depictions of minority music results in misunderstandings and inaccurate viewpoints regarding ethnic minority groups among primary school students. This does not only underpin ethnic stereotypes among the students, but also affects their capacity to develop core literacy skills in music classrooms.

The following research questions are formulated for study:

RQ: How can the programs' effectiveness be evaluated in terms of enhancing core literacy skills by measuring students' progress?

Literature Review

Anqi (2023) described music education as an inclusive approach, which entails the instruction and review of basic musical theories, including melody, rhythm, and musical expression. Apart from providing theoretical knowledge to students, music education aims at nurturing students' core literacy skills. Music education involves different sets of activities, which are aligned to the education curriculum, such as playing musical instruments, singing, and exploring music genres. All these music-related activities are intended to enhance students' emotional expression, cognitive development and the nurturing of social skills.

Previous studies have highlighted diverse components, which are considered vital for music education, especially in primary schools. Zenglan (2023) theorized that at the center of music instructions lies the consideration of music theory, which equips students with basic knowledge about melody and rhythm. Students are also exposed to a variety of music genres, which plays a vital role in enriching their cultural values, in addition to creating awareness about the historical importance rooted in their musical traditions. In the context of China, primary school students are expected to learn about instruments, such as mouth organ and recorder (Pang, 2019). Often, music teachers in China use different traditional instruments, including xylophones, recorders, as well as hand percussion instruments to guide students

through diverse sounds and music playing techniques. Similarly, teachers use music textbooks and songbooks, which are tailored for primary school levels to instruct students about musical concepts and sight-reading.

A study by Wei (2018) suggested the concept of Orff, a music teaching method, which varies from the traditional music teaching theory. Orff's music teaching method supports the use of inventive techniques of emotional resonance and experience to communicate with the minds of the students. The most notable feature of Orff music teaching method is that it demands students to commit themselves to the music. Once committed, students can relax and master music concepts with ease, and this supports creativity and the expansions of core literacy skills. The findings of this study established that music education in China largely emphasizes on singings of songs, and the mechanical memory of lyric tunes. Hence, these practices do not nurture students' appreciation of music. Consequently, Many Chinese students do not have the desired personality or creativity when it comes to music learning. To enhance music appreciation in China, the study recommended the need for new policies that will be guided by Orff's music teaching methods to ensure that music teaching in the country is governed by its practical, cultural, and theoretical operations instead of borrowing from the western culture.

A review by Li (2020) found that many Chinese schools rely on the large class-style teaching approach. However, in the curriculum, the requirement for harp is mandatory musical instrument. Based on the Chinese music curriculum, students are expected to play apart in extracurricular music activities and the primary way is community activities. However, there are limited community activities. Further, the systematic scarcity of music curriculum is inadequate in primary school. Due to the short development period of music education, China has not fully figured out a range of teaching methods, which are appropriate for the characteristics of its education. The findings revealed that the traditional Chinese educational structure appreciates mathematics, chemistry, and physics, and gives little credit or no attention to music education. This is a notable problem that must be addressed.

Extant literature sheds light on the importance of exposing learners to a different musical genre. According to Ding (2018), introducing young learners to music genres helps them to widen their minds as they endeavor to appreciate their cultural values and the historical importance linked with their traditional music. Further, the exploration of different musical genres guides students to develop an understanding about diverse cultures. Leung and Zhang (2022) emphasized that hands-on engagement with diverse musical instruments contributes significantly towards connecting students to the world of sounds. Music teachers are tasked with the role to offer their students a hands-on experience even at the lower levels of learning. Often, this includes exposing students to drums, xylophones and other instruments that help them to understand the concepts of music. Such exposure is cited to boost students' creativity and the aspect of self-expression.

Engaging in choral singing activities play a pivotal role in terms of improving students' musical knowledge and nurturing useful life skills (Yuan et al. 2021). Primary school teachers rely on collaborative approaches to help students understand the values of working as teams and sharing responsibilities. In the contemporary learning environment, music education relies heavily on technology as an integral element. Although technology integration in music

education at primary school levels has proven quite costly, major efforts are being made. Wang (2021) revealed that some primary schools utilize digital resources, music software, and other vital platforms during music instruction. Often, this habit promotes technological fluency among the learners' while also boosting their engagement by making music education accessible.

There is adequate evidence from past studies that the state of music education across primary schools differs significantly based on the country, location and the implemented educational policies. The current state of this education, together with its curriculum and instructional techniques can be clearly understood by reviewing different countries. For instance, in the United States, primary education differs broadly from one state to another or even from one school district to another. Some of the primary school institutions prefer comprehensive music courses, which offer students with new learning opportunities, such as singing, playing music instruments and exploring music theory (Bai, 2022). Nonetheless, because of budget constraints and the varying educational policies and other priorities, some schools tend to provide limited music teaching.

Across several European countries, music education is highly appreciated. Most of the countries place a huge emphasis on incorporating music into the lower primary school syllabus. Over the years, some specific countries, including Finland, Hungary, and Netherlands have become popular because of their comprehensive music teaching programs. For example in Finland, music lessons are developed depending on students' strengths and interests. This practice is often reflected in the choices of music instrument and student band groups. In this case, all students are given a chance to play an instrument while concepts are clearly taught in the classroom via singing, playing music and composing music (Albuz & Demirci, 2018). In parts of Asia, the state of music all differs based the country. For instance, South Korea has strong musical programs, which are intended to demonstrate Korean musical creativity in a broad diversity of genres. Similarly, China has made significant efforts to create new policies, which are intended to expand music teaching to the urban areas. Education policies in China are tailored in a manner that enables music education to reflect the Chinese cultural, traditional and regional diversity with key emphasis given on traditional Chinese music forms. Notably, there is evidence that the state of primary music teaching differs largely depending on economic, cultural and other education policies in every country. Hence, major efforts, policies, and educational reforms play a huge part in supporting music education, especially given its positive impact on young learner' social, emotional, and cognitive development.

The music teaching curriculum in primary schools is designed to create awareness about the most important element of music, such as music theory, recognition of diverse music genres, as well as hands-on music activities. Often, the curriculum is indented to offer an inclusive experience, which entails common elements such as singing, composing music, listening to music and playing the instruments (Sehnaz, 2021). Further, the curriculum also focuses on the improvement of musical skills, including melody, rhythm, and harmony. There are several instructional methods are used in different primary schools in music education. According to Elleman (2019), singing is an integral element in primary school music teaching. Students are given the chance to learn new songs from diverse cultures and this helps them to develop pitch recognition, vocal capabilities and musical expression. The act of singing is designed to create joy and enhance student creativity. Further, singing plays a key role in

improving several linguistic and cognitive skills among the learners. For example, singing lessons helps students to learn how to control their voices. This vocal improvement is useful for musical performance, in addition to the refinement of pronunciation and communication skills. There is a common perception that confident vocal expression translates to enhanced reading aloud skills as well as public speaking activities.

Playing music instrument is another practice that equips students with enriching experience that stems beyond just composing music. Fierro (2022) emphasized that teaching students how to play different instruments creates a unique opportunity for them to engage with the music in a hands-on approach. This promotes a direct understanding of musical concepts whereas fostering a diversity of physical, cognitive and emotional skills. When playing music, several senses become engaged. This implies that students do not simply hear the sound generated but also have a good experience during the act of playing the instruments. Such multisensory engagement promotes the learning experience and a better understanding of music concepts. A precise coordination of hands and figures is highly needed when students are playing instruments. When students master how to manipulate diverse keys of the instruments, they start to improve their fine motor skills. These skills are directly transferable to varied activities, such as drawing, handwriting, and diverse arts and crafts. Barry & Durham (2017) posited that introducing students to music theory is important in music education lessons. This helps students to understand more about musical notation, time signatures, and note values, all which are vital concepts that guide students have control in reading and interpreting music. Such exposure and understanding permits students to communicate effectively and regenerate music ideas.

Past studies have indicated that music teaching has long been linked with emotional, cognitive, and social development in young people. A study by Adjepong (2021) revealed that incorporating music education as a core literacy skill within the primary school education system has attracted much attention from education stakeholders. The changes have brought concerns about combining music education with language and communication skills development. The study's findings suggested that as stakeholders work hard to improve the teaching methodologies and outcomes associated with the changes, the evaluation of primary school music teaching based on core literacy is a fundamental aspect that must be considered. Further, one significant approach to integrating music and core literacy is the development of cross-disciplinary lesson plans. Primary school curriculum designers must include musical activities like singing, instrument playing, rhythm practices, and language-related activities like reading, listening, and writing. This methodology supports all-inclusive learning and enables the teachers to gauge the impact of music on language progress since evaluating lesson plans comprises of assessing pupils' participation and progress in both literacy and musical components.

A study By Teng (2022) suggested that students can compose songs or musical narratives replicating their conception of a story's plot, themes, or characters. The methodology may reveal their grip on core literacy content and display their ability to communicate and interpret information via music. The study further explained that joint exercises involving pupils working together to create musical compositions offer a platform for assessing teamwork, problem-solving skills, and communications add to the core literacy. These practices encourage pupils to amalgamate their experiences and knowledge across different

areas, thereby nurturing a deeper understanding of core literacy and music. The Performance-based valuations incorporate core literacy and music by necessitating students to accomplish musical activities related to literary themes. These valuations weigh musical skills and the pupil's ability to convey ideas and emotions through music. According to Arrington (2023), technological developments offer advanced methodologies for evaluating primary school music teaching based on core literacy. Educational applications provide an interactive experience combining music and language education, allowing teachers and other stakeholders to track pupils' engagements and progress. This technology offers up-to-date data on pupil performance, thus enabling teachers to provide tailor-made instruction to individual pupils' needs.

Research by Hansen (2023) emphasized that developing criteria and rubrics for primary school music teaching based on core literacy grants a structured approach to evaluating pupils. Rubrics offer a clear guideline for assessing literacy and musical activities, thus promoting objectivity and consistency in evaluation practices. The methodology ensures that various dimensions of learning, such as written reflections, oral presentations, and musical performances, are considered when teachers assign grades. The researcher argued that reflective journals and portfolios enable all-inclusive pupil assessment advancement in core literacy and music education. Portfolios assemble various student works, exhibiting recorded discussions, written reflections, and musical performances. Reflective journals let the pupils eloquent their learning experiences and connect musical activities with their languages. More so, authorizing pupils to assess their educational voyage and that of their colleagues can be a very influential evaluation tool. Self-assessment inspires self-understanding, and this helps pupils to identify their weaknesses and strengths. The practice cultivates collaboration and communication skills among the pupils. Yang (2023) explained that qualitative case studies investigate more deeply the effect of core literacy integration on primary school music teaching. The education stakeholders should observe classroom practices and interview the learners and teachers to collect data and conclude how core literacy influences musical studies. The methodology provides comprehensive realizations of the complexities of the teaching approach. He also explained that the standardization of tests restricts assessing expressions and creativity. Standardizations provide insights into pupils' foundational music and literacy skills. Including music-related questions in standardized tests can clearly show a particular pupil communicates and understands musical concepts.

Assessing primary school music teaching based on core literacy is a dynamic undertaking that requires a multidimensional approach. This is according to Hamouda (2023). The strategies used should evaluate musical aspects proficiency and clarify the complex relationship between music practices and the advancement of core literacy skills. Incorporating core literacy skills into primary school music teaching embraces a great promise of promoting pupils' linguistic, cognitive, social, and emotional growth. As the stakeholders refine and explore the evaluation methodologies, the aspects for enhancing music education and core literacy should remain promising as the integration of music education and core literacy has substantial potential for improving pupils' learning skills. An apparent policy of teacher training, assessment validity, resource allocation, and equity are essential for a successful implementation. Educational stakeholders can polish their strategies to generate substantial and beneficial learning settings that promote both core literacy and musical advances as the research in the area continues to evolve.

Research Methodology

The DDR research design integrates both quantitative and qualitative methods to examine the effect of a Do-Re-Mi music programs on literacy skills. Quantitative component – it entails the use of standardized tests to evaluate students' core literacy skills, such as language fluency and writing competence. The tests are set to be administered before and after the introduction of music education initiatives to assess the changes in literacy outcomes. The justification is as follows; standardized tests offer measures to learners' literacy skills. Further, relying on these tests allows for comparison with previous literacy data in other locations. Precisely, there are four phases of design and development research methods, which are discussed in section.

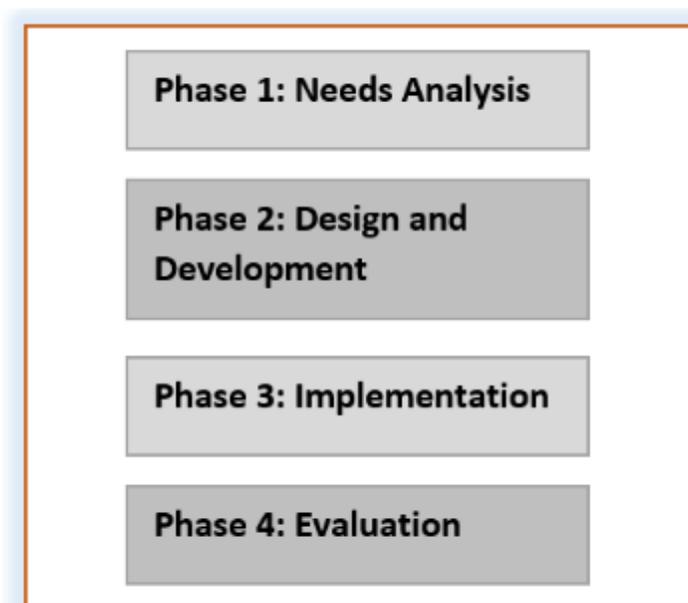


Figure 3: DDR phases

In this study, the researcher will employ a sample to develop inferences concerning the wider group. The procedure of sampling in this study will enable the researcher to select participants based on a specific criterion. It is evident that primary school teachers work in different educational backgrounds and so their experiences can differ depending on factors like location and school size. A sample of 60 primary school students and 4 music educators will be considered for this study.

Results and Findings

The program's effectiveness was evaluated in terms of enhancing core literacy skills by measuring students' progress. Pearson correlation coefficients was used to conduct the correlative analysis. It measures the strength and direction of linear relationships between variables. Values range from -1 (perfect negative correlation) to +1 (perfect positive correlation), with 0 indicating no relationship. In this analysis, all correlation values lie between 0.659 and 0.727, at significant level of 0.01 level (2. signifying moderate-to-strong positive associations between the skills. These findings, in general, indicate that as proficiency in one skill increases, proficiency in related skills also tends to improve.

	Reading Skills	Writing Skills	Listening Skills	Speaking Skills
Reading Skills	1	0.694**	0.727**	0.708**
Writing Skills	0.694**	1	0.663**	0.683**
Listening Skills	0.727**	0.663**	1	0.659**
Speaking Skills	0.708**	0.683**	0.659**	1

** . Correlation is significant at the 0.01 level (2-tailed).

The analysis indicated that the strongest correlation ($r = 0.727$, $p < .001$) is observed between Reading Skills and Listening Skills. This suggests that individuals who excel in reading comprehension also tend to perform well in listening tasks. Both skills involve processing linguistic input, which may explain their strong association. Reading and Speaking skills also had a notable correlation ($r = 0.708$, $P < .001$). The findings suggest that strong reading abilities are likely to lead to enhanced speaking skills. In other words, individuals with strong reading abilities are likely to articulate their thoughts more effectively in spoken communication. Reading provides a foundation for expanding vocabulary and improving sentence structure. The relationship between reading skills and writing skills followed closely ($r = 0.694$, $p < .001$). This moderate strong and statistically significant relationship aligns with the common understanding that reading enhances vocabulary, grammar, and writing fluency. Exposure to diverse texts can inspire better writing practices. Skills and Listening Skills show a correlation of ($r = 0.663$, $p < .001$). This suggests that listening comprehension aids in organizing thoughts coherently during writing tasks, emphasizing the interconnected nature of these skills. Similar finding, ($r = 0.683$, $p < .001$) was also observed between Writing Skills and Speaking Skills. The findings confirms that writing encourages clarity of thought, which translates into more structured verbal expression. Conversely, practicing speaking can enhance writing by fostering fluency and confidence. The weakest correlation ($r = 0.659$, $p > .005$) is found between Listening Skills and Speaking Skills. While still significant, this relationship may reflect the fact that listening involves receptive processing, whereas speaking requires active production. Despite this, both skills rely on shared linguistic knowledge. In addition, a score $r = 0.659$, is still above which still implies a strong and positive relationship exist.

In general, it is important to note that all relationship a positive and statistical significant level. The conducted test was also two tailed. A two-tailed test is a type of significance test used to determine whether there is a relationship in either direction between two variables, not just one specific direction. To illustrate this using the relationship between reading skills and writing skills as an example, while a positive change in reading skill lead to an improvement in writing skill, the reverse, whereby a change in writing skills lead to an improvement in reading skills is true.

Conclusion

The study concludes that integrating the Do-Re-Mi music education program into primary school curricula in Shangrao, Jiangxi province significantly enhances students' core literacy skills, including reading, writing, listening, and speaking. Through a design and development research approach combining quantitative and qualitative methods, the findings demonstrate

that music education—when strategically implemented with appropriate resources, teacher training, and curriculum alignment—can foster meaningful improvements in linguistic competencies. The positive correlations between literacy dimensions and expert insights into pedagogical and structural needs affirm that music is not merely a supplementary subject but a powerful tool for holistic educational development. To ensure long-term success, efforts must focus on inclusive program design, equitable resource distribution, and continuous professional development for educators.

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