

THE EFFECTS OF AN EXTRACURRICULAR MUSIC EDUCATION PROGRAM UTILIZING MUSIC GENRES ON THE MUSIC TEACHING EFFICACY AND PROFESSIONAL COMPETENCE OF PRE-SERVICE EARLY CHILDHOOD TEACHERS

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Abstract

This study aimed to examine the effects of an extracurricular music education program utilizing various music genres on the music teaching efficacy and professional competence of prospective early childhood teachers. The participants were 80 pre-service early childhood teachers enrolled at University A in Gyeonggi Province. The program incorporated classical music, children's songs, popular music, and Korean traditional music, and was conducted over a total of 15 sessions. The results revealed that the extracurricular program using diverse music genres significantly improved the participants' music teaching efficacy—except in the subdomain of interpersonal relations—as well as all subdomains of their professional competence as music teachers. These findings highlight the necessity of integrating diverse musical genres and instructional approaches into early childhood teacher preparation programs.

Keywords: extracurricular program, pre-service early childhood teachers, music teaching efficacy, music teaching professionalism.

1. Introduction

Teaching methods in early childhood music education are diverse, and university courses in this field in Korea also exhibit various formats. However, current early childhood music education curricula at universities are generally limited to instrumental instruction and two or three music education-related courses, thereby restricting the time and opportunities available for pre-service early childhood teachers to acquire in-depth and varied experiences in music teaching. One potential alternative to address these limitations is the introduction of extracurricular programs.

At the university level, extracurricular curricula have been actively implemented under the autonomous management of each institution since the introduction of the Advancement of College Education (ACE) policy in 2010 (Kim, 2020). Prior research has reported that extracurricular activities go beyond mere non-credit academic experiences, exerting a significant influence not only on students' learning but also on their overall life satisfaction, depending on how they utilize their free time (Kim, Yu, & Lee, 2017).

An extracurricular curriculum refers to programs or activities offered by a university for which academic credit is not awarded (Kim, 2020). Internationally, the term is often classified into cooperative and special activities, or used in the context of self-directed learning outside regular class hours. While in Korea "extracurricular" encompasses all non-credit activities, internationally it is described as activities that complement formal coursework (Merriam-Webster, 1997). In this sense, it can be understood as comprising essential out-of-class activities, individualized student activities, and curriculum-supporting activities.

In early childhood education departments, major types of extracurricular activities include field practice competency enhancement programs, cultural and artistic activities, academic research projects, and career or employment preparation (Park, 2021; Cho, 2025; Department of

Early Childhood Education, Chung-Ang University, 2025; Soong Eui Women's College Extracurricular Program, 2023). Music programs fall under the category of cultural and artistic activities. Examples include learning ukulele performance techniques and instructional applications from experts (Department of Early Childhood Education, Chung-Ang University, 2025), as well as acquiring both theoretical and practical knowledge of traditional children's songs and games, which can be used to motivate learners (Department of Early Childhood Education, Dongguk University, 2025).

Extracurricular activities have been shown to positively influence pre-service early childhood teachers' satisfaction with their major, teaching skills, music teaching efficacy, and pedagogical content knowledge (Cho, 2024). They also facilitate a more comprehensive understanding of the major and, when offered in the first year, can promote adaptation to the major and increase learning motivation (Jin & Kim, 2019). Pre-service early childhood teachers in their second year, in particular, occupy a transitional stage in which they move from acquiring foundational knowledge toward engaging in more advanced study. Although these students tend to have high interest and enthusiasm for their field, they often lack actual teaching experience and practical skills. Therefore, extracurricular music classes provide valuable opportunities to apply theoretical knowledge to practice and to acquire teaching skills through hands-on experience. Furthermore, second-year students often have relatively more available time and higher learning motivation, making this stage optimal for achieving higher participation rates and stronger learning outcomes in extracurricular programs.

From a developmental perspective, the second year of study is also the period when teaching efficacy and professional identity as a future teacher begin to form in earnest. Providing repetitive practice and successful teaching experiences through extracurricular music instruction during this period can help students establish confidence and a positive attitude toward music education at an early stage. This, in turn, offers substantial advantages for field practice in the third and fourth years and for application in professional settings after graduation, ultimately forming a critical foundation for becoming an early childhood teacher with enhanced expertise and teaching competence. Here insert the introduction. The introduction should briefly place the study in a broad context and highlight why it is important. It should define the purpose of the work and its significance.

An extracurricular music program utilizing multiple musical genres has the potential to positively influence the music teaching efficacy of pre-service early childhood teachers. Teaching efficacy is strengthened by factors such as mastery experiences, vicarious experiences, and verbal persuasion (Bandura, 1977). This program enables participants to engage directly with diverse genres—including classical music, gugak (Korean traditional music), creative children's songs, and popular music—and to explore corresponding instructional strategies. In doing so, it provides opportunities for teachers to experience successful implementation of music instruction, which constitutes a critical source of mastery experience in enhancing music teaching efficacy (Chung, 2021). Many pre-service teachers have had limited opportunities to develop such efficacy due to prior music education courses being heavily focused on the creative children's song genre (Roberts et al., 2021). Through this program, pre-service teachers can learn instructional strategies that reflect the unique pedagogical features of each genre—such as the rhythmic cycles (jangdan) and folk elements of gugak, the formal structures of classical music, and the rhythm and expressiveness of popular music. This, in turn, equips them with the flexibility and professional competence to select and apply appropriate genres and teaching

methods according to children's developmental levels and interests in early childhood education settings.

Moreover, an extracurricular music program based on diverse genres can positively affect the professional competence of pre-service early childhood music teachers. Experiencing a variety of musical genres and reconstructing them for educational purposes offers pre-service teachers opportunities to expand both their content knowledge and their pedagogical content knowledge. The processes of designing and critically evaluating lessons foster their growth as reflective practitioners (Schön, 1983) and cultivate the cultural sensitivity and inclusive attitudes essential for teaching in multicultural and diversity-oriented educational contexts (Gay, 2010). By engaging with such a genre-based extracurricular program, pre-service teachers may re-evaluate the value of music education and internalize it as an integral part of their professional identity.

Accordingly, this study aims to examine the contribution of genre-based extracurricular programs to enhancing the professional competence of pre-service early childhood music teachers, thereby offering important implications for strengthening music education within teacher preparation programs and for informing educational practice.

Research Question 1. Does an extracurricular music program utilizing multiple genres affect the music teaching efficacy of pre-service early childhood teachers?

Research Question 2. Does an extracurricular music program utilizing multiple genres affect the professional competence of pre-service early childhood music teachers?

2. Literature Review

Music programs that incorporate multiple musical genres can foster not only the musical growth of early childhood teachers but also the development of musical sensitivity in young children (Cain, Lindblom, & Walden, 2013; Gordon, 1997). This is because various genres inherently contain diverse musical elements. These elements include melody, meter, rhythm, tonality, tempo, and dynamics, all of which are embedded in every piece of music. For example, in terms of metric characteristics, 85% of contemporary Korean children's songs are composed in duple meters such as 2/4 or 4/4 (Kim, 2023). In Korean traditional music (gugak), irregular meters such as quintuple meter (5/8) are frequently employed, while Romantic-era Western composers often composed dance forms such as the waltz in triple meter (Hong, 2024). Gugak consists of jangdan (rhythmic cycles) and garak (melodic patterns), which share similarities with melody and rhythm in Western music but also exhibit unique, non-equivalent qualities (Park, 2014). Children who grow up listening to music with varied meters, rhythms, and tonalities are more likely to develop heightened musical sensitivity (Cain et al., 2013; Gordon, 1997). Music education theorists, such as Orff (1920), have emphasized musical play incorporating a wide range of musical elements, and in the United States, programs have been developed and implemented that utilize diverse genres to cultivate young children's musical abilities (Music Together, 2025).

In recent years, the scope of early childhood music education has shown a notable tendency toward expansion. Historically, the dominant perspective regarded "music education" as a black box, with a primary focus on Western art music (Bowmer et al., 2018; Lamont, 1998; Saarikallio, 2019). However, as the field has broadened, incorporating band music, jazz ensembles, and popular music into instruction has yielded significant educational benefits (Ilari, 2020). In parallel, gugak, which reflects Korea's unique cultural identity, has gained increasing prominence in primary and secondary music curricula, underscoring the need for children to be

exposed to gugak from early childhood (Park, 2014). Gugak holds particular pedagogical value due to its distinctive system of jangdan and garak, which differs fundamentally from Western music. Whereas Western music evolved primarily on the basis of regular meter and tonal systems, gugak's rhythmic cycles—often asymmetric and cyclical, such as those in 3-, 5-, or 7-beat patterns—cultivate a unique rhythmic sensibility. Furthermore, the melodic framework of gugak, characterized by modal structures, incorporates traditional expressive techniques such as yeo-eum, nonghyeon, chuseong, and sigimsae, thereby expanding the scope of musical expression and enhancing aesthetic sensitivity (Kim, 2020). These musical specificities enable children to experience freer and more flexible rhythms and melodies compared to the regularities of Western music, eliciting diverse auditory and kinesthetic responses (Jang, 2016). At the same time, pre-service early childhood teachers can deepen their pedagogical content knowledge by adapting gugak's jangdan and garak to suit instructional contexts, thereby implementing multidimensional approaches to music education (Lee, 2017). Thus, there is a clear need for music programs that draw upon diverse genres containing a wide range of musical elements.

In current early childhood education settings, the selection of musical genres varies by instructional domain. In the singing domain, children's songs are most frequently used, whereas in the listening domain, classical music accounts for 58% of reported usage (Um & Kim, 2018). Popular music is seldom used in listening activities (Lee, 2017), and gugak instruction is rarely implemented outside of special extracurricular programs (Kim, 2007).

Several factors contribute to the underutilization of diverse genres in early childhood music education. Many teachers integrate music into theme-based activities in a superficial manner (Park, 2009), and a lack of teaching competence and professional expertise in music remains a major barrier. Teachers who lack personal confidence in music or who have not received adequate training in pedagogical content knowledge during teacher preparation programs tend to feel burdened when addressing unfamiliar genres, often reverting to repetitive activities centered on a narrow repertoire of children's songs (Lee, 2014; Barrett, 2016). In addition, university-based teacher preparation programs face time constraints that limit their ability to incorporate genre-diverse educational content into music education courses.

In light of these limitations, the present study aims to develop and evaluate the effectiveness of an extracurricular music program for pre-service early childhood teachers that utilize multiple musical genres. Use the equation editor to show each equation.

3. Research Methodology

3.1 Participants

The participants of this study comprised a total of 80 second-year students majoring in Early Childhood Education at University A in Gyeonggi Province, including 40 students who had taken the extracurricular music education program and 40 students who had not. The demographic characteristics of the participants are presented in Table 1. Their ages ranged from 21 to 23 years, with the majority being female (96.2%). Most participants resided in Seoul or Gyeonggi Province (97.6%), and almost all (97.5%) reported having no prior experience in music training programs.

3.2. Research Instruments

1) Music Teaching Efficacy

To measure music teaching efficacy, the Music Teaching Efficacy Belief Instrument developed

by Choi (2012) was adapted for suitability to early childhood teachers.

The instrument comprises five subdomains: music class instruction (11 items), guidance in daily life (5 items), instruction in special music activities (6 items), music-related administrative tasks (3 items), and interpersonal relationships (6 items), totaling 31 items.

Because Choi's (2012) tool was originally designed for music teachers at the secondary level or higher, it was modified to be appropriate for assessing the music teaching efficacy of early childhood teachers. This modification process was conducted with the agreement of two early childhood education specialists and two music education specialists. Specifically, the term "student" was replaced with "young child," "school" with "kindergarten," and "music club" with "special (elective) music activities." For example, the original item "I can maintain continuous interest in my students and build rapport in order to guide them" was modified to read "I can maintain continuous interest in young children and build rapport in order to guide them."

The reliability coefficient (Cronbach's α) for the adapted instrument, including the revised items, was .963, indicating excellent internal consistency.

2) Music Teacher Professional Competence

To assess music teacher professional competence, the instrument developed by Hong (2015) was adapted for use in this study. The instrument comprises 31 items across four subdomains: knowledge (9 items), instructional practice (8 items), learning support (6 items), and attitude (8 items).

Since Hong's (2015) tool was originally designed for music teachers at the secondary level or higher, it was modified to be suitable for evaluating the professional competence of early childhood music teachers. This modification was undertaken with the agreement of two early childhood education specialists and two music education specialists. Specifically, the term "student" was replaced with "young child," "school" with "kindergarten," and "music club" with "special (elective) music activities." For example, the original item "I understand students' cognitive, emotional, and physical development" was revised to "I understand young children's cognitive, emotional, and physical development." Likewise, "I have the ability to create a school environment that supports music instruction" was revised to "I have the ability to create a kindergarten environment that supports music instruction," and "I have the ability to democratically manage a music club" was revised to "I have the ability to democratically manage special (elective) music activities."

The reliability coefficient (Cronbach's α) for the adapted instrument, including the revised items, was .930, indicating high internal consistency.

3.3. Research Procedure

1) Extracurricular Music Program Utilizing Musical Genres

For the development of the extracurricular music program utilizing multiple musical genres, various musical works were classified by genre, listened to, and analyzed for their musical elements. Based on these analyses, pieces appropriate for young children were selected through discussions among two music specialists and two early childhood music specialists.

Among the two music specialists, Expert A majored in piano at both the undergraduate and master's levels, currently serves as an adjunct faculty member at a university, and leads cultural and artistic activities for children at a local community center. Expert B majored in piano at the undergraduate level and in both music therapy and piano at the master's level, previously worked

as a music therapist, and currently teaches music and music therapy courses. Among the two early childhood music specialists, Expert C holds bachelor's, master's, and doctoral degrees in early childhood education and is a full-time faculty member in the Department of Early Childhood Education, while Expert D double-majored in child studies and gugak (Korean traditional music), completed a master's degree in early childhood education, served as a kindergarten vice-director, and currently teaches music education.

From the pool of works with diverse musical elements, a total of 12 pieces—three from each of four genres—were selected for ease of delivery to pre-service early childhood teachers. The selection included both regular and irregular meters, a variety of formal structures (e.g., ABA, ABAC), and a balanced mix of major and minor tonalities.

For creative children's songs, "Cham Joeun Mal" was chosen for its familiarity to pre-service teachers, inclusion of key musical elements, and applicability to children's daily lives. "AgiYeomso" was selected as a piece in which the tonality shifts from major to minor and back to major, and "DalpaengiuiHaru" was included for its changes in tempo, offering greater musical depth.

For classical music, most works tend to be lengthy; however, for young children, pieces exceeding five minutes can be difficult to use as a basis for music activities. Therefore, shorter works under five minutes were selected, allowing for repeated listening and integration into activities. These included Anderson's "The Syncopated Clock," which can naturally teach rhythm through repeated syncopation; Wieniawski's "Polonaise" Op. 4, a violin dance piece in triple meter with recurring waltz-like movements; and Mendelssohn's Songs Without Words No. 1 "Andante con moto" (Sweet Remembrance), a short, accessible piano piece composed for his sister that conveys a gentle, lyrical atmosphere.

For Korea international music, both vocal and instrumental works were selected. Vocal selections included "Taepyeongga," a call-and-response song easily sung by young children, and "Doraji," themed around a familiar plant from everyday life. An instrumental example, "Pungmulnori," was chosen for its use of samchaejangdan and the opportunity it provides to experience various forms of traditional Korean instrumental performance.

For popular music, pieces with inappropriate or sexualized lyrics were excluded, and selections were made to ensure lyrical familiarity for children while incorporating varied musical elements. "NeouiUimi" was selected for its ABA form, relative simplicity, and repetitive melody, making it easy to follow despite being longer than typical children's songs. "RamyeonIngeonga" was chosen for its familiar subject matter, repeated notes, and swing-like rhythmic feel. The pieces selected by genre are presented in Table 1.

Each instructional session in the program was structured into three stages: understanding, practice, and application. In the understanding stage, participants were introduced to each genre, guided in identifying music appropriate for young children within each genre, and provided with theoretical explanations of the musical elements present in the selected pieces. In the practice stage, demonstrations were given on how to structure music activities based on the selected works, along with examples of prepared lesson plans. Participants analyzed the musical elements and characteristics of each work and discussed how these could be developed into activities. In the application stage, pre-service teachers worked in groups to design simple, genre-based activities using the selected music. Feedback was provided on whether the objectives were aligned with both musical elements and child development, and whether the lesson plans effectively supported those objectives.

The structure of the extracurricular music program utilizing musical genres is presented in Table 2 , and an example of the program is shown in Table 3.

Table 1. Musical Elements and Characteristics of the Selected Pieces in the Extracurricular Music Program by Genre

	Genre	Title	Musical Elements and Characteristics
1	Creative Children's Song	Truly kind words	4/4 meter, C major, moderate tempo; AA'BA form with repetition and variation; lyrics promote the habit of using kind words in daily life
2		A Snail's Day	3/4 meter, A-A'-B form; tempo change from slow to fast; temporal flow of the music matches the time-related content of the lyrics
3		Baby Goat	3/4 meter, C major, ABA form
4	Classical	Anderson – The Syncopated Clock	4/4 meter (including meter changes); A-B-A-C-A' form; pervasive syncopation creates the rhythmic effect of a broken clock
5		Wieniawski – Polonaise, Op. 4	3/4 meter, dance piece, D major, ABA' form; rhythmic motif of (♩)-(♩)-(♩) is repeated
6		Mendelssohn – Songs Without Words No. 1 “Andante con moto” (Sweet Remembrance)	6/8 meter, A major, ABA' form; characterized by a lyrical, song-like right-hand melody
7		Taepyeongga	Gyeonggi folk song, slow gutgeori rhythm; refrain (“Eolssigu jota”) is repeated; call-and-response structure
8	Korean Traditional Music (Gugak)	DorajiTaryeong	Gyeonggi folk song, semachi rhythm; familiar “bellflower” theme for children; clear melodic structure as in “Doraji~ Doraji~ Baekdoraji~”
9		Pungmulnori	Traditional instrumental/farmers' music; samchaejangdan (deong~ deok kung deok / deong~ deok kung deok); distinct timbres of drum, janggu, and kkwaenggwari are recognizable
10	Popular Music	Lee Juck Don't Worry, My Dear	4/4 meter, E minor, ABA form; conveys a message of recovery and encouragement
11		IU (feat. Kim Chang-wan) – Your Meaning	3/4 meter, G major, ABAB (simple repetitive) form; repetitive lyrics make it easy to follow while expressing precious relationships
12		AKMU – Is It Ramen?	4/4 meter (swing), C major, AABA form; uses a familiar food theme for children

Table 2. Structure of the Extracurricular Music Program Utilizing Musical Genres

Session		Stage	Lesson Goal & Content
1	Creative Children's Song	Understanding	Identify creative children's songs suitable for young children
			Understand musical elements in creative children's songs
2		Practice	Practical application of creative children's songs in music activities 1, 2, and 3
3		Application	Create music activities using creative children's songs
			Design activities targeting musical elements found in creative children's songs.
4	Classical	Understanding	Identify classical music suitable for young children
			Understand musical elements in classical music
5		Practice	Practical application of classical music in music activities 1, 2, and 3
6		Application	Create music activities using classical music
			Design activities targeting musical elements found in classical music
7	Korean Traditional Music (Gugak)	Understanding	Identify gugak suitable for young children
			Understand gugak musical elements (jangdan, garak)
8		Practice	Practical application of gugak in music activities 1, 2, and 3
9		Application	Create music activities using gugak
			Design activities targeting musical elements found in gugak
10	Popular Music	Understanding	Identify popular music suitable for young children
			Analyze musical elements in popular music
11		Practice	Practical application of popular music in music activities 1, 2, and 3
12		Application	Create music activities using popular music
			Design activities targeting musical elements found in popular music
13	Summary	Creative Children's Song & Classical	Present group-created music activities using creative children's songs and classical music
14		Korean Traditional Music & Popular Music	Present group-created music activities using gugak and popular music
15		Feedback	Provide feedback on music activities presented by each group

Table 3. Example Lesson Plan – Classical Music

Music	Classical	Music Titles	Anderson – The Syncopated Clock
Genre			Wieniawski– Polonaise, Op. 4
			Mendelssohn – Songs Without Words No. 1 “Andante con moto” (Sweet Remembrance)
Program Title	Practical Application of Classical Music Education (1, 2, 3)		
Objectives	To enable participants to understand each musical piece, learn its practical applications in early childhood education settings, and adapt it for instructional purposes.		
Materials	Music recordings, scarves, rhythm sticks, “elephant nose” prop.		
Method	1. Review the analysis of musical elements (key, meter, tempo) covered in theory.		
	2. Demonstrate lesson plan (movement) for The Syncopated Clock:		
	- Move in different directions according to syncopated beats.		
	- Move scarves to match each phrase of the musical form.		
	- Clap on the “ching” sound.		
	- Divide into groups for scarf, foot movement, and clapping sections; combine them once each part is mastered.		
	3. Demonstrate lesson plan (instrumental) for Polonaise:		
	- Move during section A, wait during section B, and move again in A'.		
	- Clap to the rhythmic motif (♩)-(♩)-(♩).		
	- Progress from clapping to rhythm sticks, then to “elephant nose,” then to practicing without instruments, and finally to performing together on chosen instruments.		
	4. Demonstrate lesson plan (singing) for Songs Without Words No. 1:		
	- Sing the melody; teacher sings the theme first, then students echo.		
	- Discuss the feelings evoked by the piece.		
	- Explain that classical music without lyrics can be sung using different syllables; allow pre-service teachers to choose their own syllables.		
Notes	Adjust the level of difficulty according to the musical sensitivity of pre-service teachers. Emphasize the importance of singing with the natural voice and becoming comfortable with singing using syllables when lyrics are absent.		

2) Pre-test

The pre-test was conducted from April 29 to April 30, prior to the implementation of the program for the experimental group. It was administered in the form of a questionnaire survey and was conducted in a separate, quiet lecture room for both the experimental and comparison groups. The test required approximately 5–10 minutes to complete.

3) Program Implementation

The program was conducted three times per week over a five-week period, from May 2 to May 30, for a total of 15 sessions. The program, consisting of 15 sessions in total, included three sessions on creative children's songs, three sessions on classical music, three sessions on gugak (Korean traditional music), three sessions on popular music, and three sessions on music selected by each group. Each session lasted 50 minutes, with three sessions held per week over the five weeks. The program was scheduled in the evening after regular classes, specifically from 6:00 p.m. to 9:00 p.m. on Thursdays. The sessions were delivered directly by the researchers who developed the program.

4) Post-test

The post-test was conducted from June 3 to June 5, 2019, after the completion of the program for the experimental group. It was administered in the same lecture room used for the pre-test, using a questionnaire survey. The test required approximately 5–10 minutes to complete.

3.4. Data Analysis

The collected data were analyzed using the SPSS WIN 22.0 program. Means, standard deviations, and adjusted means for the pre-test and post-test scores of the experimental and control groups were calculated. An analysis of covariance (ANCOVA) was conducted on the post-test scores, with the pre-test scores for music teaching efficacy and music teacher professional competence set as covariates for both the experimental and control groups.

4. Results and Discussion

4.1. Effects of the Music Education Program Utilizing Musical Genres on Pre-service Early Childhood Teachers' Music Teaching Efficacy

The results of examining the effects of the music education program utilizing multiple musical genres on the music teaching efficacy of pre-service early childhood teachers are as follows. The means, standard deviations, and adjusted means for the pre-test and post-test scores on music teaching efficacy are presented in Table 4.

Table 4:
Means and Standard Deviations for Music Teaching Efficacy in the Pre-test and Post-test (N = 80)

Variable	Source	SS	df	MS	F
Music Class Instruction	Covariate	41.05	1	41.05	3.76
	Between Groups	774.55	1	774.55	70.98***
	Error	207.31	19	11	
	Total	1217.27	22		
Daily Life Guidance	Covariate	141.93	1	141.93	30.18***
	Between Groups	132.55	1	132.55	28.19***
	Error	89.35	19	4.7	
	Total	363.82	21		
Special Music Activities	Covariate	133.09	1	133.09	24.79***
	Between Groups	250.88	1	250.88	46.73***
	Error	102	19	5.37	
	Total	490.77	21		
Music Administration	Covariate	20.9	1	20.9	8.34**
	Between Groups	58.91	1	58.91	23.49***
	Error	47.64	19	2.51	
	Total	127.46	21		
Interpersonal Relationships	Covariate	52.38	1	52.39	3.73
	Between Groups	55.68	1	55.68	4.32
	Error	266.7	19	14.04	
	Total	327.77	21		
Total Score	Covariate	868.48	1	868.48	9.58**
	Between Groups	4312	1	4312	47.61***
	Error	1720.98	1	90.58	
	Total	6901.46	19		

** $p < .01$, *** $p < .001$

As shown in Table 4, ANCOVA revealed significant group differences in most subdomains of music teaching efficacy.

In Music Class Instruction, the covariate effect was not significant ($F = 3.76$, $p > .01$), but the group effect was ($F = 70.98$, $p < .001$), indicating that the program enhanced instructional efficacy.

For Daily Life Guidance, both the covariate ($F = 30.18, p < .001$) and group effects ($F = 28.19, p < .001$) were significant, showing higher post-test scores in the experimental group even after controlling for pre-test scores. Similarly, Special Music Activities ($F = 24.79, p < .001$; $F = 46.73, p < .001$) and Music Administration ($F = 8.34, p < .01$; $F = 23.49, p < .001$) showed significant effects for both covariate and group, suggesting the program improved these competencies.

In Interpersonal Relationships, neither covariate nor group effects reached significance ($F = 3.73, p > .01$; $F = 4.32, p > .05$). For the Total Score, both effects were significant ($F = 9.58, p < .01$; $F = 47.61, p < .001$), confirming the program's substantial positive impact on overall music teaching efficacy.

These findings demonstrate that the program meaningfully improved multiple aspects of music teaching efficacy in pre-service early childhood teachers.

4.2 Effects of the Music Education Program Utilizing Musical Genres on Pre-service Early Childhood Teachers' Professional Competence in Music Teaching

The results of examining the effects of the music education program utilizing multiple musical genres on the professional competence of pre-service early childhood music teachers are as follows. The means, standard deviations, and adjusted means for the pre-test and post-test scores on music teacher professional competence are presented in Table 5.

Table 5. Means, Standard Deviations, and Adjusted Means for Music Teacher Professional Competence by Group (N = 80)

Subdomain	Group	N	Pre-test		Post-test		
			M	SD	M	Adjusted M	SD
Knowledge	experimental	40	21.27	3.47	30	30	4.73
	control	40	21.54	3.5	22.36	21.91	2.58
Instructional Practice	experimental	40	16.72	4.4	25.09	25.09	3.3
	control	40	17.09	4.59	17.82	17.82	4.17
Learning Support	experimental	40	14.45	2.91	21.63	21.64	3.8
	control	40	14.72	2.83	16	16	2.93
Attitude	experimental	40	23.81	4.75	21.72	32.73	5.57
	control	40	23.54	4.9	25.27	25.27	4.24
Total Score	experimental	40	76.27	11.34	109.45	109.45	13.04
	control	40	76.9	11.47	81.45	95.45	9.43

ANCOVA revealed significant group differences across all subdomains and the total score after controlling for pre-test scores. In Knowledge ($F = 11.05, p < .01$; $F = 39.61, p < .001$), Instructional Practice ($F = 23.87, p < .001$; $F = 46.85, p < .001$), and Learning Support ($F = 26.51, p < .001$; $F = 37.47, p < .001$), both covariate and group effects were significant, indicating strong program effects. In Attitude ($F = 81.85, p < .001$; $F = 58.63, p < .001$), significance was also found, suggesting positive influence on professional values. Finally, the Total Score ($F = 11.05, p < .01$; $F = 39.61, p < .001$) confirmed the program's overall effectiveness in enhancing professional competence.

Table 6.ANCOVA Results for Music Teacher Professional Competence in the Post-test (N = 80)

Variable	Source	SS	df	MS	F
Knowledge	Covariate	104.79	1	104.79	11.05**
	Between Groups	375.53	1	375.53	39.61***
	Error	180.12	19	9.48	
	Total	644.96	21		
Instructional Practice	Covariate	157.33	1	157.33	23.87***
	Between Groups	308.77	1	308.77	46.85***
	Error	125.22	19	6.59	
	Total	573.46	21		
Learning Support	Covariate	134.29	1	134.3	26.51***
	Between Groups	189.85	1	189.85	37.47***
	Error	96.25	19		
	Total	405.27	21		
Attitude	Covariate	397.98	1	397.98	81.85***
	Between Groups	285.08	1	285.08	58.63***
	Error	92.38	19		
	Total	796	21		
Total Score	Covariate	1633.2	1	1633.2	11.05**
	Between Groups	4467.89	1	4464.89	39.61***
	Error	956.26	19		
	Total	6901.46	21		

** $p < .01$, *** $p < .001$

5. Conclusion

This study investigated the effects of an extracurricular music education program utilizing diverse musical genres on pre-service early childhood teachers' music teaching efficacy and professional competence. The findings can be discussed as follows.

First, participants in the program showed significantly higher levels of music teaching efficacy than those in the control group, with the exception of the interpersonal subdomain. This result suggests that the program was broadly effective in enhancing teaching efficacy, consistent with prior studies showing that exposure to diverse musical elements fosters teachers' musicality (Cain, Lindblom, & Walden, 2013; Gordon, 1997). In particular, music class instruction skills improved as participants engaged with varied genres and systematically applied musical elements such as rhythm, melody, and form to lesson design. The program also positively influenced daily life guidance, as music activities were intentionally selected to support habit and attitude formation—an outcome aligned with previous studies emphasizing the broader developmental

value of music (Noh, 2005; Yoon, 2007; Choi, 2008). Furthermore, competence in music administration improved, as participants gained experience in planning and managing music-related tasks required in real classroom contexts. By contrast, interpersonal skills did not differ significantly, likely because the program did not directly address this domain. Future research should incorporate collaborative activities such as group music-making, choir, or ensemble work to strengthen interpersonal efficacy (Moon, 2015; Jang & Jeon, 2016).

Second, the program significantly enhanced music teacher professional competence across all subdomains. This confirms its role in strengthening knowledge, instructional practice, learning support, and professional attitudes. These findings are consistent with research suggesting that teaching experiences foster professional growth and teaching capacity (Yu, 2011; Ilari, 2020). More specifically, participants expanded their music knowledge by analyzing diverse pieces, which improved their ability to distinguish and apply concepts such as meter and rhythm (Cain et al., 2013; Gordon, 1997). Instructional practice developed through designing and demonstrating lesson plans, echoing prior work highlighting the importance of experiential teaching (Chung, 2021; Vanetta-Hall, 2010; Rosnani&Roselan, 2024). Learning support was strengthened as participants learned to tailor music experiences to children's developmental needs, supporting studies emphasizing teachers' sensitivity to children's musical responses (Kwon, 2018). Attitudes toward music education also improved, reflecting growth in professional identity and openness to diverse musical genres, which are known to enrich children's cultural understanding (Lee, 2017).

Overall, the program demonstrated that extracurricular, genre-based music education can complement theoretical coursework, build confidence, and enhance the professional identity of pre-service teachers. It offers a practical model for diversifying music education beyond children's songs, thereby increasing opportunities for richer musical experiences. Moreover, the findings underscore the educational value of extracurricular programs in teacher preparation curricula. Importantly, the program was both applicable and replicable, suggesting potential for adoption in early childhood education institutions and teacher education programs.

Future studies should expand the range of genres to include jazz, film, or animation music, which may further enrich pre-service teachers' competence. Additionally, given the limited exposure to irregular meters such as 5/8 or 7/8 among Korean children and teachers, future research should systematically incorporate irregular meters to deepen understanding of rhythm and broaden conceptual development in music education.

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