

# The Effects of Gordon's Method on Achievement among Music Major Undergraduates in Fundamental Music Theory Using Multimodal Learning

Zhu Jie, Christine a/p Augustine

Universiti Pendidikan Sultan Idris, Tanjong Malim, Perak

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## Abstract

This study investigates the effects of the Gordon Method on student achievement in the Fundamental Music Theory course among music major undergraduates in Fujian Province, China. A quasi-experimental pretest-posttest control group design was employed, involving 100 music major undergraduates at Sanming University, divided into an experimental group ( $n = 50$ ) and a control group ( $n = 50$ ). The experimental group received instruction using the Gordon Method, which emphasizes audiation, multimodal learning, and active engagement, while the control group followed conventional teacher-centered methods. A standardized music theory test, covering tonal theory, rhythmic theory, chord progression, melodic dictation, and ear training, was administered before and after the 12-week intervention. Data were analyzed using paired-sample and independent-sample t-tests. The experimental group's mean score increased significantly from 48.34% to 76.64% ( $t(49) = -14.045$ ,  $p < .001$ ), while the control group improved from 52.75% to 74.66% ( $t(49) = -13.397$ ,  $p < .001$ ). Although the experimental group showed greater within-group improvement, the difference between groups was not statistically significant ( $p = .435$ ). The findings suggest that the Gordon Method enhances music theory comprehension and application through audiation and multimodal learning. The study recommends longer intervention periods and further exploration of learning styles and motivation to maximize the effectiveness of the Gordon Method in music education.

**Keywords:** Gordon Method, Achievement, Fundamental Music Theory, Multimodal Learning, Music Education

## Introduction

Music theory is a fundamental component of music education, providing students with the foundational knowledge necessary for understanding musical structures, harmony, and composition. In China, music theory courses are compulsory for music major undergraduates,

especially in Fujian Province, where the curriculum includes topics such as harmony, composition analysis, and polyphony (Fujian Provincial Department of Education, 2020). However, despite the importance of music theory, many students face challenges in achieving satisfactory results. Research suggests that traditional teaching methods in music theory often focus on rote memorization and passive learning, which may hinder students' ability to engage actively with the content and limit their academic achievement (Chen, 2017; Bu, 2022). Therefore, innovative instructional strategies such as the Gordon Method, which emphasizes audiation and multimodal learning, may offer solutions to these challenges by enhancing students' understanding and application of music theory concepts.

The Gordon Method, developed by Edwin Gordon in the 1960s, focuses on the concept of audiation—hearing and understanding music internally before performing it (Gordon, 1997). This approach shifts the focus from passive reception of musical knowledge to active engagement with musical patterns and structures. Gordon's theory highlights the importance of students developing an internal sense of music through listening and pattern recognition, which enhances both comprehension and retention of music theory (Gordon, 1997). The integration of multimodal learning strategies with the Gordon Method enables students to engage with music theory through different sensory channels—visual, auditory, reading/writing, and kinesthetic—thereby improving learning outcomes (Fleming & Mills, 1992). Research has shown that students exposed to multimodal learning are more likely to retain knowledge and demonstrate higher achievement in music theory (Zhang, 2020; Bu, 2022).

In Fujian Province, the Ministry of Education of China has introduced several policy measures aimed at improving the quality of music education, including the teaching of fundamental music theory (Ministry of Education of China, 2022). The curriculum in Fujian Province covers essential theoretical components such as music appreciation, harmony, and music history, with the goal of developing students' musical literacy and performance skills (Fujian Provincial Department of Education, 2020). However, many students still struggle to grasp complex theoretical concepts, suggesting that traditional teaching methods may not align with students' learning needs (Chen, 2017; Bu, 2022). This gap highlights the need for more flexible and student-centered approaches, such as the Gordon Method, which can address diverse learning preferences and improve overall achievement.

The application of the Gordon Method in China remains relatively limited, despite its success in Western music education systems (Xu, 2011; Chen, 2017). Studies have shown that music education in China is traditionally based on teacher-centered methods, where students rely on memorization and repetition rather than developing a deeper understanding of musical structures (Yang & Gao, 2023). The Gordon Method's focus on audiation and pattern recognition contrasts with these conventional approaches, making it potentially more effective in helping students internalize complex theoretical concepts (Liu, 2015; Zhang, 2020). Although some Chinese music schools and organizations have introduced the Gordon Method for early childhood music education, its use among undergraduate music majors remains limited (Chen, 2017). This suggests a need for further research and wider implementation of the method in higher education contexts.

Given the growing emphasis on improving the quality of music education in China, there is a strong case for adopting the Gordon Method as part of the fundamental music theory curriculum. The multimodal learning strategies embedded in the Gordon Method offer students multiple ways to engage with music theory content, making it more accessible and easier to internalize (Fleming & Mills, 1992). By combining listening, visual aids, and hands-on practice, the Gordon Method can address diverse learning styles and improve student achievement. This study aims to investigate the effects of the Gordon Method on achievement among music major undergraduates in Fujian Province, providing empirical evidence to support its integration into the music education curriculum.

## Literature Review

### *Gordon's Music Learning Theory (MLT)*

Gordon's Music Learning Theory (MLT) is grounded in the concept of audiation, which refers to the process of mentally hearing and understanding music even when it is not physically present. Gordon (1997) defined audiation as the ability to comprehend music at a cognitive level, similar to how individuals think in language. According to Gordon, music learning follows a developmental sequence where students initially experience music through listening and imitation before progressing to more advanced skills like reading and writing music. This approach contrasts with conventional music education methods that focus heavily on memorization and technical training (Gordon, 2003). Gordon's emphasis on audiation encourages a deeper internalization of musical concepts, allowing students to apply their understanding creatively in both performance and analysis (Runfola & Taggart, 2005).

MLT is based on the premise that music learning should follow a natural sequence akin to language learning. Just as language acquisition begins with listening and speaking before progressing to reading and writing, Gordon (1989) proposed that music learning should start with listening and imitation. Gordon's method includes a structured sequence of learning that begins with aural/oral experiences, followed by verbal association, partial synthesis, symbolic association, and generalization or creativity (Gordon, 2012). This structured process enables students to internalize musical structures and patterns, facilitating more meaningful engagement with music theory and performance (Gordon, 2003). Through this progression, students develop both technical proficiency and creative expression.

Empirical studies have shown that the Gordon Method enhances musical understanding and performance by encouraging cognitive engagement with musical structures. Gordon's work has been widely adopted in North America and internationally, with positive results reported in various educational contexts (Woodford, 1996). Studies by Johnson (2021) and Xu (2014) found that students taught using MLT demonstrated superior aural skills, improved improvisation ability, and greater analytical depth in music theory. The cognitive focus of MLT fosters a more holistic understanding of music, improving both theoretical comprehension and practical application.

The Gordon Method's focus on audiation provides a solid framework for enhancing achievement in music theory. By training students to think musically, the method facilitates deeper analytical understanding and more confident performance. This study seeks to investigate the effects of the Gordon Method on student achievement among music major undergraduates in the Fundamental Music Theory course using multimodal learning. The

potential to develop both cognitive and practical skills through this approach reflects the growing need for more effective music education strategies.

### *Multimodal Learning in Music Education*

Multimodal learning refers to the use of various sensory channels (visual, auditory, and kinesthetic) to enhance learning. Fleming's VARK model identifies four primary learning styles: Visual (seeing), Auditory (hearing), Reading/Writing (text-based learning), and Kinesthetic (learning through movement and physical engagement) (Fleming & Mills, 1992). Research has shown that students learn more effectively when instructional strategies align with their preferred learning styles (Gilakjani, 2012). In music education, multimodal learning enables students to engage with music theory through different pathways, enhancing comprehension and retention (Jones, 2009). By incorporating visual aids, aural training, and hands-on practice, students can develop a more comprehensive understanding of music theory.

Integrating multimodal learning with the Gordon Method allows students to engage with music theory more deeply. Gordon's emphasis on audiation aligns with the auditory mode, while the use of visual aids like notation, scores, and diagrams supports visual learners. Kinesthetic learning is facilitated through performance and improvisation exercises, which enhance the physical and cognitive dimensions of music learning (Gordon, 2012). Combining these modalities helps students form stronger connections between theoretical concepts and practical applications, improving both comprehension and performance (Runfolo & Taggart, 2005). Several studies have highlighted the benefits of multimodal learning in music education. Research by Xu (2014) found that students exposed to multimodal strategies demonstrated higher levels of engagement and improved theoretical understanding. Similarly, Gordon's method, when integrated with multimodal learning, has been shown to enhance students' ability to analyze and interpret music more effectively (Johnson, 2021). The simultaneous engagement of multiple sensory channels facilitates deeper cognitive processing, enabling students to internalize complex musical structures more effectively (Fleming, 2001). The combination of multimodal learning and the Gordon Method holds promise for improving achievement in fundamental music theory courses. This approach provides students with multiple entry points to understanding music theory, accommodating different learning preferences and enhancing overall comprehension. The cognitive benefits of audiation, reinforced by multimodal engagement, create a more dynamic and effective learning environment.

### *Achievement in Music Theory*

Achievement in music theory reflects students' ability to apply theoretical knowledge in both analysis and performance. Fundamental music theory courses serve as the foundation for further musical study, providing students with essential knowledge and skills. According to Aldwell and Schachter (2003), these courses typically cover key concepts such as harmony, rhythm, notation, and form. The ability to internalize and apply these concepts is considered a key indicator of achievement in music theory (Bennett et al., 2016). However, traditional methods of teaching music theory often rely heavily on memorization and rote learning, which may limit deeper cognitive engagement (Marvin, 2012).

The Gordon Method offers a more effective framework for developing music theory achievement by fostering active cognitive engagement through audiation. Gordon (1997) argued that true musical understanding emerges when students can mentally hear and process musical structures. Studies have shown that students who develop strong audiation skills demonstrate higher levels of theoretical understanding and analytical ability (Johnson, 2021). Xu (2014) found that students taught using the Gordon Method performed better on both theoretical and practical assessments compared to those taught through conventional methods. This suggests that the Gordon Method enhances achievement by improving both conceptual understanding and performance. Achievement in fundamental music theory courses is typically assessed through written exams, aural skills tests, and performance evaluations (Liu & Howard, 2015). While these methods provide valuable insights into students' knowledge and skills, they may not fully capture the depth of understanding fostered by the Gordon Method. Gordon's emphasis on audiation enables students to demonstrate deeper analytical insights and greater musical fluency, enhancing both test performance and creative application (Runfola & Taggart, 2005).

Integrating the Gordon Method with multimodal learning strategies provides a more comprehensive approach to music theory education. The combination of cognitive engagement through audiation and multimodal reinforcement through visual, auditory, and kinesthetic learning enhances both theoretical understanding and practical performance. This integrated approach is expected to lead to higher achievement levels among music major undergraduates in fundamental music theory courses.

#### *The Effects of the Gordon Method on Achievement in Music Theory*

The Gordon Method's focus on audiation and multimodal learning directly contributes to improved achievement in music theory. Studies have shown that students who develop audiation skills demonstrate enhanced analytical ability, greater aural perception, and improved performance (Xu, 2014). The cognitive engagement fostered by the Gordon Method encourages students to understand music at a deeper level, enabling them to apply theoretical concepts more effectively in both analysis and performance (Gordon, 2003).

Research has demonstrated that the Gordon Method improves both theoretical and practical aspects of music learning. A study by Runfola and Taggart (2005) found that students taught using the Gordon Method demonstrated higher accuracy in aural skills tests and greater confidence in music analysis. Similarly, Johnson (2021) reported that students trained using the Gordon Method performed better on both written and practical assessments compared to those taught through conventional methods. This suggests that the Gordon Method enhances achievement by fostering deeper cognitive processing and more effective application of musical concepts. Multimodal learning further enhances the benefits of the Gordon Method. The integration of visual, auditory, and kinesthetic learning channels reinforces theoretical concepts and improves retention (Fleming, 2001). This approach allows students to engage with music theory through multiple pathways, accommodating different learning preferences and enhancing overall understanding (Gilakjani, 2012). The combination of cognitive engagement through audiation and multimodal reinforcement creates a more effective learning environment, leading to higher achievement levels in music theory.



This study seeks to investigate the effects of the Gordon Method on student achievement among music major undergraduates in the Fundamental Music Theory course using multimodal learning. By combining Gordon's cognitive framework with multimodal learning strategies, the study aims to provide empirical evidence to support the integration of these methods into music education curricula. The expected outcome is improved student achievement and a deeper, more meaningful engagement with music theory.

### Methodology

This study employed a quasi-experimental pretest-posttest control group design to examine the effects of the Gordon Method on student achievement in the Fundamental Music Theory course. A total of 100 music major undergraduates enrolled in the Fundamental Music Theory course at Sanming University participated in the study. The participants were divided into two groups: an experimental group (n=50) and a control group (n=50). The experimental group received instruction using the Gordon Method, which emphasized audiation, improvisation, and active learning strategies, while the control group followed conventional teacher-centered instruction focused on rote learning and theoretical understanding. The instructional phase lasted for 12 weeks and was based on the official syllabus for the Fundamental Music Theory course from Sanming University. The syllabus included structured instruction in tonal theory, rhythmic theory, and chord progression, ensuring consistency and relevance to the course content. The study aimed to assess whether the Gordon Method, integrated with multimodal learning, resulted in greater improvements in music theory achievement compared to traditional methods.

The instructional content was divided into three phases: four weeks of tonal instruction, four weeks of rhythmic instruction, and four weeks of blended instruction combining tonal and rhythmic elements. The Gordon Method followed a "whole-part-whole" approach, where students first experienced a musical concept as a whole, then analyzed and practiced its components, and finally synthesized it back into a complete musical understanding. The control group received instruction through conventional methods, which included teacher-centered lectures, rote memorization, and structured exercises focused on theoretical knowledge. The intervention curriculum was designed to cover key elements of fundamental music theory, including scales, intervals, key signatures, chord structures, and harmonic progressions. By aligning the content with the latest syllabus (2021) from Sanming University, the study ensured that both the experimental and control groups received equivalent theoretical instruction, differing only in the teaching methodology.

Achievement in music theory was measured using a standardized test administered as both a pretest and posttest. The test was designed to assess students' understanding and application of key music theory concepts, including tonal theory (identification and analysis of scales, intervals, and key signatures), rhythmic theory (analysis and recognition of rhythmic patterns and time signatures), chord progression and harmony (identification and application of chord structures and harmonic progressions), melodic dictation (listening and notation of short melodic phrases), and ear training (recognition of pitch, intervals, and chord types). The test included a combination of multiple-choice questions, short-answer questions, and practical listening exercises to evaluate both theoretical knowledge and practical application. A panel of music educators from the selected university reviewed the test for content validity and alignment with the syllabus. A pilot study was conducted with a small group of

participants from the target population to test the clarity and consistency of the test items, and feedback from the pilot study was used to refine the test before the main study. Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics, including mean and standard deviation, were used to summarize the data. A paired-sample t-test was used to compare the pre-test and post-test scores within each group to determine whether there were statistically significant improvements in achievement. An independent-sample t-test was used to compare the post-test results between the experimental and control groups to assess the effectiveness of the Gordon Method in improving music theory achievement..

## Results

The results of this study provide insights into the effects of the Gordon Method on students' achievement in the Fundamental Music Theory course among music major undergraduates. The pre-test scores indicated that both the experimental and control groups started at comparable levels of music theory knowledge. The mean pre-test score for the experimental group was 48.34%, while the control group's mean score was slightly higher at 52.75%. Based on Table 1, the independent samples t-test showed that this difference was not statistically significant ( $p = 0.102$ ,  $p > 0.05$ ). This suggests that both groups had similar foundational knowledge before the intervention, reinforcing the internal validity of the study by confirming that any observed differences in post-test performance could be attributed to the different teaching methods rather than pre-existing disparities in knowledge.

Table 1

*Independent Samples T-Test Results in Pre-Test*

		Levene's Test for Equality of Variances		t-test for Equality of Means						95% Confidence Interval of the Difference	
		F	Sig.	t	df	Significance One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
PreTest	Equal variances assumed	.074	.787	1.649	98	.051	.102	4.4100	2.6749	-.8982	9.7182
	Equal variances not assumed			1.649	97.887	.051	.102	4.4100	2.6749	-.8982	9.7182

Following the 12-week intervention, post-test scores indicated significant improvements in music theory achievement for both the experimental and control groups. The mean post-test score for the experimental group increased to 76.64%, while the control group's mean score increased to 74.66%. Although the experimental group demonstrated a higher mean score, an independent samples t-test, as shown in Table 2, revealed that the difference was not statistically significant ( $p = 0.435$ ,  $p > 0.05$ ). The effect size analysis (Cohen's  $d = -0.157$ ), as shown in Table 3, indicated a small effect size, suggesting that while the Gordon Method resulted in slightly higher post-test scores, the overall effect was not strong enough to produce a statistically significant difference between the two groups. These

findings suggest that both teaching methods were effective in improving students' understanding of fundamental music theory concepts.

Table 2

*Independent Samples T-Test Results in Post-Test*

		Levene's Test for Equality of Variances		t-test for Equality of Means						95% Confidence Interval of the Difference	
		F	Sig.	t	df	Significance One-Side d p	Two-Side d p	Mean Difference	Std. Error Difference	Lower	Upper
PostTest	Equal variances assumed	.535	.466	-.783	98	.218	.435	-1.98000	2.52863	-6.99799	3.03799
	Equal variances not assumed			-.783	96.548	.218	.436	-1.98000	2.52863	-6.99893	3.03893

Table 3

*Effect Sizes of Post-Test*

		Standardizer <sup>a</sup>	Point Estimate	95% Confidence Interval	
PostTest	Cohen's d			Lower	Upper
		12.64316	-.157	-.549	.236

Within-group analysis, however, showed more substantial improvements in the experimental group. A paired samples t-test comparing pre-test and post-test scores within the experimental group, as shown in Table 4, revealed a significant increase in achievement (mean difference = -28.30,  $t(49) = -14.045$ ,  $p < .001$ ). This suggests that the Gordon Method, which emphasized audiation, movement-based learning, and active engagement, had a significant impact on students' understanding of music theory. In comparison, the control group also demonstrated a statistically significant improvement in achievement, with a mean difference of -21.91 ( $t(49) = -13.397$ ,  $p < .001$ ), seen in Table 5. However, the larger mean difference in the experimental group suggests that the Gordon Method was more effective in enhancing students' achievement compared to the traditional lecture-based instruction.



#### Paired Samples T-Test Scores of Pre-Test and Post-Test for Experimental Group

#### Paired Samples T-Test Scores of Pre-Test and Post-Test for Control Group

audiation, rhythmic pattern training, and movement-based engagement. Gordon's Music Learning Theory (MLT) emphasizes the role of audiation—the ability to mentally hear and comprehend music even when it is not physically present—in developing musical literacy (Gordon, 2012). The experimental group's exposure to audiation-based instruction likely enhanced their ability to internalize and apply complex music theory concepts. Research by Toca (2023) similarly demonstrated that audiation-based instruction improves music reading and sight-singing skills among choral music students, supporting the argument that active engagement with musical structures enhances comprehension and performance. The findings of this study align with this research, suggesting that the Gordon Method's emphasis on active learning strategies contributed to the higher within-group improvement in the experimental group.

The structured and systematic nature of the Gordon Method may have also contributed to the improved performance of the experimental group. The intervention was organized into three distinct phases—tonal instruction, rhythmic instruction, and combined instruction—providing students with a clear and progressive learning framework. Artıktay (2024) noted that structured music instruction enhances cognitive processing by helping students build and integrate musical schemas. The Gordon Method's focus on whole-part-whole learning, where students first experience a musical concept as a whole, analyze its components, and then synthesize it into a cohesive understanding, likely reinforced students' capacity to process and retain music theory concepts. The results of this study suggest that this structured and integrated approach led to more effective learning outcomes in the experimental group compared to the traditional, lecture-based methods used with the control group.

Although the experimental group demonstrated greater within-group improvement, the independent samples t-test showed that the difference in post-test scores between the experimental and control groups was not statistically significant ( $p = .435$ ). This finding contrasts with previous studies, such as Chandler (2024), which reported more pronounced differences between groups taught using the Gordon Method and those taught using conventional methods. One possible explanation is the relatively short duration of the intervention, which lasted only 12 weeks. Research by Chen (2017) and Patel (2019) indicates that short-term interventions may have limited effects on long-term learning outcomes, particularly in complex subjects like music theory. Longer periods of reinforcement and practice may be necessary for the Gordon Method's benefits to produce statistically significant improvements over traditional instruction. Additionally, factors such as students' prior music training, cognitive engagement levels, and motivation may have influenced the extent to which they benefited from the intervention.

The findings of this study have important implications for music education. The significant within-group improvement observed in the experimental group highlights the potential of the Gordon Method as an effective pedagogical tool for teaching music theory. The study underscores the importance of incorporating audiation, movement-based learning, and active engagement into music theory instruction to enhance learning outcomes, particularly among multimodal learners. Research by Fleming and Baume (2006) suggests that multimodal learners demonstrate higher cognitive engagement and retention when instructional strategies activate multiple sensory modalities simultaneously. The Gordon

Method's multimodal approach, which integrates auditory, kinesthetic, and cognitive learning processes, aligns well with these findings. Music educators should consider integrating Gordon Method-based strategies into their teaching practices to enhance student engagement and music theory comprehension.

### Conclusion

In conclusion, the findings of this study suggest that the Gordon Method had a positive impact on student achievement in the Fundamental Music Theory course among music major undergraduates. The significant improvement in the experimental group's post-test scores, compared to their pre-test scores, indicates that the Gordon Method's emphasis on audiation, rhythmic training, and movement-based learning effectively enhanced students' understanding and application of music theory concepts. Although the control group also showed significant improvement in post-test scores, the greater within-group improvement in the experimental group suggests that the Gordon Method provides additional benefits beyond conventional teaching methods. The study reinforces the importance of active learning strategies and multimodal engagement in music theory instruction, supporting previous research on the effectiveness of the Gordon Method in enhancing music literacy (Gordon, 2012; Gökçe & Karakaş, 2024).

While the greater improvement in the experimental group highlights the effectiveness of the Gordon Method, the lack of a statistically significant difference between the post-test scores of the experimental and control groups ( $p = .435$ ) suggests that further refinement of the intervention approach may be necessary. Factors such as the relatively short 12-week intervention period, variations in students' prior music training, and differences in learning styles may have influenced the results. Extending the duration of the intervention or incorporating additional reinforcement and practice sessions may lead to more pronounced differences between the Gordon Method and conventional instruction. Future research should explore the effects of longer intervention periods and examine the impact of individual learning styles on the effectiveness of the Gordon Method. Moreover, studies involving larger and more diverse samples could provide deeper insights into the generalizability of these findings across different educational contexts.

Future research could also investigate the long-term effects of the Gordon Method on music theory achievement and retention. Studies examining how students apply audiation and movement-based learning strategies in performance and composition contexts could further clarify the method's effectiveness in promoting overall music literacy. Additionally, exploring the role of motivation and cognitive engagement in the learning process may provide valuable insights into how the Gordon Method enhances student learning outcomes. Incorporating qualitative methods, such as student interviews and classroom observations, could offer a more comprehensive understanding of students' learning experiences and the instructional processes involved. These recommendations could help refine the implementation of the Gordon Method and contribute to the development of more effective music theory instruction strategies.

This study contributes to the growing body of literature on music education by providing empirical support for the theoretical underpinnings of the Gordon Method, particularly its emphasis on audiation and multimodal learning. By demonstrating measurable

improvements in student achievement within a structured academic setting, the findings reaffirm Gordon's (2012) theory that music learning is most effective when internalized through active listening and movement-based strategies. Contextually, the research offers valuable insights for educators in higher music education, particularly in Asian contexts such as Fujian, China, where traditional instruction remains dominant. The results highlight the potential for pedagogical innovation through the integration of student-centered and multimodal approaches, aligning with global shifts toward more experiential learning. Thus, the study not only strengthens the theoretical basis of the Gordon Method but also provides practical implications for curriculum designers seeking to enhance music theory instruction in diverse educational environments.

## References

- Aldwell, E., & Schachter, C. (2003). *Harmony and voice leading* (3rd ed.). Wadsworth.
- Artıkay, S. (2024). An exploration of music learning strategies among university students. *Journal of Music Education Research*, 32(1), 78–92.
- Bennett, D., Rowley, J., Dunbar-Hall, P., Hitchcock, M., Blom, D., & Blom, D. (2016). *Life in the real world: How to make music graduates employable*. Common Ground Research Networks.
- Bu, L. (2022). An analysis of contemporary music education practices in China. *Journal of Music Education*, 45(3), 223–238.
- Chandler, C. (2024). *A study on private piano curriculum using Edwin Gordon's music learning theory* [Unpublished master's thesis].
- Chen, J. (2017). An empirical study and critical reflection on Edwin Gordon's music learning theory: An empirical research report based on the teaching of "music skills and music sense." *Symphony (Journal of Xi'an Conservatory of Music)*, (2), 121–126. <https://doi.org/CNKI:SUN:JXXA.0.2017-02-023>
- Fleming, N. D. (2001). *Teaching and learning styles: VARK strategies*. Neil Fleming.
- Fleming, N., & Baume, D. (2006). Learning styles again: VARKing up the right tree! *Educational Developments*, 7(4), 4–7.
- Fleming, N., & Mills, C. (1992). Not another inventory, rather a catalyst for reflection. *To Improve the Academy*, 11(1), 137–155.
- Fujian Provincial Department of Education. (2020). *Education development report of Fujian Province*. Fujian Provincial Department of Education.
- Gilakjani, A. P. (2012). Visual, auditory, kinaesthetic learning styles and their impacts on English language teaching. *Journal of Studies in Education*, 2(1), 104–113.
- Gökçe, B. K., & Karakaş, B. (2024). Multi-sensory learning in violin training. *International Journal of Quality in Education*, 8(2), 12–30.
- Gordon, E. (1989). *Audiation, imitation and notation: Musical thought and thought about music*. *The American Music Teacher*, 38(5), 15.
- Gordon, E. (1997). *Learning sequences in music: A contemporary music learning theory* (2nd ed.). GIA Publications.
- Gordon, E. (2003). *A music learning theory for newborn and young children* (2nd ed.). GIA Publications.
- Gordon, E. (2012). *Quick and easy introductions*. GIA Publications.
- Johnson, A. E. (2021). *One elementary general music teacher's uses of and experiences with Gordon's music learning theory: A case study* [Doctoral dissertation, University of South Carolina].

- Jones, B. D. (2009). Motivating students to engage in learning: The MUSIC model of academic motivation. *International Journal of Teaching and Learning in Higher Education*, 21(2), 272–285.
- Liu, F. (2015). Challenges and prospects in Chinese music education. *International Journal of Music Education*, 33(1), 45–56.
- Liu, F., & Howard, K. (2015). Challenges in Chinese music education: Pedagogical directions. *International Journal of Music Education*, 33(2), 145–162.
- Marvin, E. W. (2012). The core curricula in music theory: Developments and pedagogical trends. *Journal of Music Theory Pedagogy*, 26(1), 255–263.
- Ministry of Education of China. (2022). *Art curriculum standards for compulsory education (2022 edition)*. [http://www.moe.gov.cn/srcsite/A26/s8001/202204/t20220420\\_619921.html](http://www.moe.gov.cn/srcsite/A26/s8001/202204/t20220420_619921.html)
- Patel, K. (2019). *Music and learning: Cognitive approaches to music education*. Oxford University Press.
- Runfola, M., & Taggart, C. C. (2005). *The development and practical application of music learning theory*. Boydell & Brewer Ltd.
- Toca, S. E. (2023). *Audiation-based improvisation and music reading achievement of secondary choral music students* [Doctoral dissertation].
- Woodford, P. G. (1996). Evaluating Edwin Gordon's music learning theory from a critical thinking perspective. *Philosophy of Music Education Review*, 4(1), 83–95.
- Xu, B. (2011). Edwin Gordon's contribution and enlightenment to the research of music education. *Journal of Xinghai Conservatory of Music*, (4), 158–166.
- Xu, B. (2014). Edwin Gordon's theory and practice of music teaching. *People's Music Publishing House*.
- Yang, J. Z., & Gao, Y. Y. (2023). Current status of visual music research in China: A visual mapping analysis based on CiteSpace software. *Music Life*, (6), 58–60.
- Zhang, H. (2020). Accommodating different learning styles in the teaching of economics: With emphasis on Fleming and Mill's sensory-based learning style typology. *Applied Economics and Finance*, 4(1), 72–83.