Primary: Jurnal Pendidikan Guru Sekolah Dasar
journal homepage: https://primary.ejournal.unri.ac.id/
contents lists available at SINTA and DOAJ

Vol. 15 No. 1 (2026): February
http://dx.doi.org/10.33578/jpfkip.v15i1.151-162

The kodály method and angklung: an engaging way to enhance music notation reading skills among PGSD students

Hikmawati Usman [1]*, Andi Ihsan [1], Sayidiman [1], Abidinova Laziza [2]

[1] Universitas Negeri Makassar, Makassar, Indonesia, 90222
[2] State University of Economics, Samarkand, Uzbekistan, 140100

Article info

Keywords:
angklung, kodály method, notation, reading skills

Abstract

This study examines the effectiveness of implementing the Kodály method, integrated with the *Angklung* as a learning medium, in enhancing the music notation reading skills of PGSD (Elementary School Teacher Education) students. The research employed a quasi-experimental method with a pre-test-post-test control group design. It involved 30 fourth-semester students from a university in Makassar, who were randomly assigned to experimental and control groups. The research instrument was a music notation reading test validated by an expert. The results indicated a significant improvement in the experimental group, with an average gain score of +31.6 (a 67.7% increase). While the control group showed an average increase of only 11.4% (21.2%). These findings demonstrate that integrating the Kodály method with the *Angklung* is more effective than the conventional method in enhancing music literacy. This study demonstrates that an experiential, culturally contextual approach is essential in teacher education to develop creative and applicable musical competencies.

* Corresponding Author.
E-mail address: hikmawaty.usman@unm.ac.id (Hikmawati Usman)
DOI: http://dx.doi.org/10.33578/jpfkip.v15i1.151-162
Received 22 December 2025; Received in revised form 9 February 2026; Accepted 9 February 2026
Available online 28 February 2026
e-ISSN 2598-5949 | p-ISSN 2303-1514

1. Introduction

The ability to read music notation is a fundamental competency that pre-service elementary school teachers (in Indonesia, PGSD) must possess, as it provides a crucial foundation for music education in schools. Pre-service teachers are not only required to master music theory but are also expected to possess practical skills that enable them to teach music creatively and enjoyably to their students (Suryadi, 2019). This skill mastery includes the ability to recognize notational symbols, understand pitch (high and low notes) and rhythm, and apply these concepts in practice on musical instruments. Traditional Indonesian musical

instruments, such as the *Angklung*, hold great potential as learning media. The *Angklung* not only functions as a musical instrument but also as an educational tool that supports collaborative and creative learning. Its characteristic of producing only one note per player encourages students to cooperate, pay attention to group coordination, and understand musical harmony (Rahmawati, 2021). Furthermore, the use of the *Angklung* in music education also contributes to the preservation of national culture and to enhancing students' appreciation of local cultural heritage (Wulandari, 2020).

Nevertheless, numerous PGSD students still face difficulties with reading musical notation, particularly when applied in instrumental practice. These obstacles may arise due to a lack of musical experience, limited exposure to interactive music media, or less effective teaching methods (Susanti, 2020). This situation demands the development of more systematic, engaging, and holistic music-teaching strategies that actively address the cognitive, affective, and psychomotor dimensions. One approach that has proven effective is the Kodály method, which was developed by Zoltán Kodály, a Hungarian composer and music educator. This method emphasizes learning music through direct musical experience (Kodály, 1974). Its core principles include the use of relative solmization (do-re-mi), the introduction of folk songs as learning media, and the integration of hand movements (such as Curwen hand signs) to aid in the internalization of pitch. This approach allows learners to understand music notation intuitively and enjoyably while bridging theory and practice (Choksy, 1999).

Previous research demonstrates the effectiveness of the Kodály method in improving musical literacy among elementary students. Susanti (2020) found that the application of the Kodály method significantly enhanced elementary students' ability to read musical notation, whereas Rahmawati (2021) emphasized that the integration of hand signs and relative solfège facilitated students' internalization of rhythmic and melodic concepts. However, studies on the application of the Kodály method at the PGSD student level, particularly in the use of the *Angklung* as a learning medium, remain very limited. This research is necessary to address this need. By implementing the Kodály method using the *Angklung*, it is hoped that PGSD students can effectively develop their music notation reading skills, understand the principles of group harmonization, and enhance their ability to teach music creatively in elementary schools. Furthermore, this research also contributes to the development of culture-based music education and innovative teaching practices in higher education.

Therefore, this study aims to examine the effect of the Kodály method on the music notation reading ability of pre-service elementary school teachers (PGSD students) through a quasi-experimental pre-test–post-test control group design, particularly in improving students' understanding of pitch and rhythm as well as their ability to apply music notation in *Angklung* performance.

2. Literature review

Pre-service elementary school teachers (PGSD students) must master reading music notation as a crucial foundation for implementing planned and creative music learning (Suryadi, 2019). Without this mastery, teachers will have difficulty guiding students to understand music comprehensively. However, field observations indicate that numerous PGSD students experience difficulties with reading notation, particularly in the context of instrumental practice, attributable to limited musical experience and less effective learning methods (Susanti, 2020). Therefore, an innovative and systematic teaching approach is required to overcome this obstacle.

[e-**ISSN 2598-5949** | p-**ISSN 2303-1514**]

One globally recognized effective approach is the Kodály method. This method emphasizes gradual music learning through direct experience, using relative solmization (do-re-mi), hand signs, and a repertoire of simple songs. Research by Susanti (2020) demonstrates that the application of the Kodály method significantly improves elementary students' ability to read music notation because this method makes the abstract concept of notation more concrete and kinesthetically experienceable. Similar effectiveness was also found at the university level, where this method helps students internalize rhythmic and melodic concepts more intuitively (Damayanti, 2021). Thus, the Kodály method offers a robust pedagogical framework for building the musical literacy of PGSD students.

Meanwhile, in the context of education in Indonesia, the use of traditional musical instruments, such as the *Angklung*, as a medium of instruction has received particular attention. The *Angklung* not only functions as a musical instrument but also as an educational tool that fosters collaboration, discipline, and an understanding of harmony, because each player masters only one pitch and thus must cooperate to produce a melody (Rahmawati, 2021). Furthermore, the use of the *Angklung* contributes to cultural preservation and enhances students' appreciation of local heritage (Wulandari, 2020). This collective and concrete characteristic of the *Angklung* aligns with the principles of active and contextual learning needed in teacher education.

Nevertheless, studies that specifically integrate the Kodály method with the *Angklung* as a learning medium remain very limited, particularly among PGSD students. Most research on Kodály focuses on school students or music majors (Susanti, 2020; Damayanti, 2021), while research on the *Angklung* tends to emphasize cultural and collaborative aspects (Wulandari, 2020; Rahmawati, 2021). In fact, the potential relation between the two is substantial. The principles of solfège and hand signs in the Kodály method can be effectively implemented with the *Angklung*, in which each physically played pitch can be associated with a specific solfège symbol and hand movement, thereby reinforcing a multimodal understanding of notation.

In response to the identified research gap, this study examines the influence of integrating the Kodály method with *Angklung* instruments on the development of music notation reading skills among PGSD students. This research is based on the proposition that the gradual structure of Kodály provides strong conceptual understanding, while collaborative practice with the *Angklung* provides deep applicative and contextual experience. This combination is expected not only to improve the effectiveness with which pre-service teachers overcome difficulties in reading notation but also to equip them with a creative, engaging, and culturally rooted model of music learning that can ultimately be transferred to their teaching practice in elementary schools.

3. Method

A quasi-experimental approach was employed in this study, using a pre-test–post-test design with both experimental and control groups. This design was selected to facilitate an objective comparison of participants' performance before and after treatment and to assess the effect of the treatment (the Kodály method) on music notation reading ability, while controlling for extraneous variables that may influence the results (Sugiyono, 2018). This research is quantitative, as the data consisted of scores of music notation reading ability that were analyzed statistically. This design provides a comparative overview of the effectiveness of the Kodály method compared to conventional learning. Furthermore, the use of the pre-test-post-test control group design enables the researcher to determine any improvement in participants'

[e-**ISSN 2598-5949** | p-**ISSN 2303-1514**]

abilities after the treatment and to ensure that such changes are genuinely caused by the given intervention.

The research population comprised all fourth-semester PGSD students at a university in Makassar enrolled in the Music Arts Education course. The research sample comprised 30 students selected through purposive sampling. Purposive sampling was employed to select students who already possessed a basic foundation in music theory, enabling optimal application of the treatment. The sample was randomly allocated to an experimental and a control class to enhance the objectivity of the comparative analysis. The relatively homogeneous characteristics of the sample supported the implementation of more valid and reliable research.

During the treatment phase, the lecturer and researcher collaborated to implement the Kodály method systematically and in a structured manner. Each session was designed with a distinct focus, such as rhythm reinforcement, an introduction to pitch patterns, and the integration of solfège with *Angklung* performance, thereby forming a progressive and comprehensive learning process. To ensure consistency in applying the method, the entire learning process was observed using a standardized observation sheet. Before the intervention began, students were administered a pretest using an instrument validated by a music education expert to assess their initial ability to read musical notation. Subsequently, over four treatment sessions, students engaged in core Kodály method activities, including solfège and hand signs for pitch internalization, exercises in reading simple notation, and direct application of notation through playing the *Angklung*. Following this series of sessions, a posttest was administered using an equivalent instrument to assess improvement in music-notation reading ability.

4. Results

As an integral part of the research process, the following results section presents the empirical findings from a series of measurements and analyses aimed at examining the effectiveness of the Kodály method in the present study context. The results are presented systematically and include a description of the sample, a comparative statistical analysis of the experimental and control groups, and an inferential analysis accompanied by effect-size measures. This study aims to provide a comprehensive response to the research question regarding the effect of this method on PGSD students' ability to read music notation using the *Angklung* in Makassar.

Table 1. Control class data (conventional method)

Subject Codes	Pre-test	Post-test	Gain
MHS-03	38	55	+17
MHS-04	60	65	+5
MHS-06	55	62	+7
MHS-08	57	66	+9
MHS-11	61	68	+7
MHS-14	53	63	+10
MHS-17	58	67	+9
MHS-19	62	70	+8
MHS-21	54	65	+11
MHS-23	59	67	+8
MHS-25	51	64	+13

Subject Codes	Pre-test	Post-test	Gain
MHS-26	37	60	+23
MHS-27	63	72	+9
MHS-28	48	63	+15
MHS-30	55	70	+15

Table 1 presents a clear improvement in students' abilities, as evidenced by the pre-test-post-test score differences. All students increase their scores, indicating that the learning process has a positive impact on all participants. No student reveals a decline or stagnant performance, suggesting that the learning activities are generally effective. The magnitude of improvement (gain) varied among students. Numerous students demonstrate substantial progress, including MHS-26, who achieves the largest gain of 23 points. This finding suggests that students with relatively low initial abilities have considerable potential for improvement when provided with an appropriate learning approach. Similarly, MHS-03 and MHS-28 record gains of 17 and 15 points, respectively, indicating consistent progress after the learning process.

On the other hand, students with relatively high initial scores tend to show more moderate improvements. For instance, MHS-04 and MHS-11, whose pretest scores exceed 60, achieve gains of only 5-7 points. This condition elucidates that those students with strong initial abilities continue to develop, although their improvement is less pronounced than that of students who start at a lower ability level. Overall, the data present in the table illustrate that the learning process not only enhances students' abilities across the board but also serves as a means of reinforcement for students with varying levels of initial competence. The variation in gains reflects differences in individual characteristics and learning readiness, and demonstrates that the learning process provides opportunities for each student to develop in accordance with their potential.

Table 2. Control class descriptive statistics

Statistics	Pre-test	Post-test	Gain Score
Mean	53.7	65.1	+11.4
Median	55.0	65.0	+9.0
SD	8.1	4.2	4.8
Varians	65.6	17.6	23.0
Min	37	55	+5
Max	63	72	+23

The statistical data present in the table indicate a clear improvement in students' abilities following the learning process. The average score increases from 53.7 in the pre-test to 65.1 in the post-test, reflecting a mean gain of 11.4 points and indicating overall improvement in students' abilities. The increase in the median from 55.0 to 65.0 further confirms that this improvement is experienced by the majority of students. The decrease in standard deviation from 8.1 to 4.2, along with the reduction in variance from 65.6 to 17.6, indicates that students' post-test performance became more evenly distributed, implying a reduced achievement gap among students. Moreover, the increase in the minimum score from 37 to 55 indicates significant progress among students with lower initial abilities, while the increase in the maximum score from 63 to 72 indicates that students with higher initial abilities continue to improve. The gain score range of 5 to 23 points indicates varying levels of improvement; however, the data indicate that all students benefit from the learning process.

Table 3. Experimental class data (kodály method)

Subject Codes	Pre-test	Post-test	Gain
MHS-01	45	78	+33
MHS-02	52	85	+33
MHS-05	48	75	+27
MHS-07	41	72	+31
MHS-09	50	83	+33
MHS-10	44	76	+32
MHS-12	47	79	+32
MHS-13	39	74	+35
MHS-15	56	84	+28
MHS-16	42	77	+35
MHS-18	49	80	+31
MHS-20	40	71	+31
MHS-22	46	78	+32
MHS-24	43	75	+32
MHS-29	52	84	+32

Table 3 implies the pre-test, post-test, and gain scores for the 15 students in the experimental group who received Kodály-based learning activities. The data indicate that all students experience an improvement in scores (positive gain scores) following the intervention. Pre-test scores range from 39 to 56, with a mean of 46.7, indicating that initial music-notation reading abilities remain low and varied. After the treatment, post-test scores increase. significantly, ranging from 71 to 85, with an average of 78.3. The obtained gain scores range from +27 to +35, with an average of +31.6, indicating a high and consistent level of improvement across all subjects. These data suggest that the Kodály method is effective in enhancing music-notation reading ability with the Angklung, as evidenced by an average increase of more than 30 points and final scores consistently above 70.

Table 4. Descriptive statistics for the experimental class

Statistics	Pre-test	Post-test	Gain Score
Mean	46.7	78.3	+31.6
Median	46.0	78.0	+32.0
SD	4.8	4.3	2.1
Varians	23.0	18.5	4.4
Min	39	71	+27
Max	56	85	+35

The data presented in Table 4 demonstrate a substantial improvement in students' abilities following the implementation of the learning intervention. The mean score increases markedly from 46.7 on the pretest to 78.3 on the post-test, yielding an average gain of 31.6 points, indicating substantial overall development in students' competencies.

The increase in the median score from 46.0 to 78.0 indicates that this improvement is experienced by the majority of students rather than by a small number of individuals. Furthermore, the decrease in standard deviation from 4.8 to 4.3, along with the reduction in variance from 23.0 to 18.5, suggests that students' post-test performance becomes more homogeneous, with narrower differences in achievement levels.

[e-**ISSN 2598-5949** | p-**ISSN 2303-1514**]

The increase in the minimum score from 39 to 71 indicates meaningful progress among students with lower initial abilities, while the increase in the maximum score from 56 to 85 indicates that students with higher initial competencies continue to develop optimally. Although the gain scores range from 27 to 35 points, indicating some variation in the degree of improvement, the overall results confirm that all students benefit substantially from the learning process.

Table 5. Recapitulation of mean pre-test and post-test

Groups	N Pre-test	N Post-test	Gain Scores	Improvement (%)
Experimental	46.7	78.3	+31.6	+67.7%
Control	53.7	65.1	+11.4	+21.2%
Differences	-7.0	+13.2	+20.2	+46.5%

The data presented in Table 5 indicate a significant difference in the improvement of abilities between the experimental and control groups. Although the experimental group starts with a lower initial (pre-test) average score of 46.7 than the control group's 53.7, they achieve a substantial increase to a post-test average of 78.3. This represents a gain of 31.6 points, or a 67.7% improvement, indicating a substantial development in ability. In contrast, the control group reveal a more limited increase, rising from 53.7 to 65.1, representing an 11.4-point gain (21.2% improvement). A post-test difference of 13.2 points and a gain score difference of 20.2 points between the two groups, coupled with a 46.5% difference in the percentage of improvement, strongly supports the conclusion that the treatment applied to the experimental group is far more effective in enhancing ability compared to the conventional learning conditions in the control group.

5. Discussion

The research results clearly demonstrate the effectiveness of integrating the Kodály method with the *Angklung* in improving PGSD students' music notation reading skills. The average gain score of +31.6 in the experimental group—nearly triple that of the control group (+11.4)—affirms that this approach not only helps students understand notation theoretically but also connects it to real musical experience. The improvement rate of 67.7% in the experimental group, far exceeding the 21.2% in the control group, implies that learning involving kinesthetic (through hand signs), auditory (through solmization), and visual (through notation symbols) aspects is able to create a deeper and more lasting understanding compared to conventional methods, which tend to be verbal and abstract.

The collective nature of the *Angklung* as a musical instrument plays an essential role in facilitating the contextual internalization of musical concepts. In practice, each student is responsible for one pitch, requiring collaboration to produce a harmonious melody. This aligns with the active and collaborative learning principles emphasized in the Kodály method. The more uniform post-test results (indicated by a decrease in standard deviation from 4.8 to 4.3) in the experimental group indicate that group activities with the *Angklung* not only improve individual performance but also reduce achievement gaps among students. Thus, the integration of *Angklung* functions serves not only as a musical medium but also as a means of

[e-**ISSN 2598-5949** | p-**ISSN 2303-1514**]

developing social skills and musical empathy, both of which are crucial for pre-service teachers.

The finding implies that students with low initial ability (e.g., MHS-13 and MHS-16, who increased by up to 35 points) demonstrated substantial progress, indicating that the Kodály method with the *Angklung* is inclusive and adaptive. The step-by-step approach of this method—starting with simple rhythm patterns, progressing to solfège, and culminating in direct application on the instrument—provides a solid foundation for students who lack confidence or have limited musical backgrounds. This is consistent with Susanti's (2020) research, which states that the Kodály method is effective in bridging the gap between theory and practice, especially for beginners. In the context of teacher education, this is highly relevant, given that numerous PGSD students come from non-musical backgrounds yet must master foundational competencies in the arts and music.

Beyond academic impact, the use of the *Angklung* also strengthens the cultural dimension in music learning. As an Indonesian cultural heritage, the *Angklung* not only teaches musical values but also instils a sense of pride and appreciation of local identity. In this study, this cultural aspect provides additional meaning to the learning process, where students are not merely learning to read notation but are also preserving and re-teaching cultural values through music. As a result, pre-service teachers develop not only technical competencies but also a strong foundation for incorporating local content into elementary school instruction, in accordance with the Merdeka Curriculum's principles that promote meaningful and contextual learning.

This study also confirms that the linkage between a structured method (Kodály) and a contextual medium (*Angklung*) can create a holistic learning environment. The improvements encompass the cognitive domain (understanding notation), psychomotor domain (skills in playing the *Angklung* and using hand signs), and affective domain (cooperation, discipline, and music appreciation). This finding strengthens the initial proposition that a multimodal approach is more effective in overcoming notation reading difficulties among PGSD students. Therefore, this research not only provides empirical evidence of the effectiveness of a method but also offers a music learning model that can be adopted in higher education—particularly in teacher education programs—to produce competent, creative, and culturally aware teachers.

6. Conclusion and implications

Based on the data analysis, the Kodály method, implemented using the *Angklung* as a learning medium, is significantly more effective in improving PGSD students' music notation reading ability than conventional instruction. The substantial and consistent improvement in the experimental group indicates that this approach successfully addresses notation-reading difficulties through multimodal, collaborative, and experiential learning. This research also confirms that integrating a global music method with a local instrument can enrich the learning process and strengthen cultural identity.

The research results provide meaningful insights for advancing music education and preparing future teachers. From a pedagogical perspective, the findings suggest that PGSD (Elementary School Teacher Education) programs and teacher education institutions may benefit from incorporating the Kodály method alongside traditional instruments, such as the *Angklung*, into their music instruction. The integration of these approaches not only supports the development of students' musical literacy but also fosters learning environments that are interactive, collaborative, and closely connected to contextual and cultural experiences.

[e-**ISSN 2598-5949** | p-**ISSN 2303-1514**]

At the curricular policy level, this study highlights the need to incorporate local content and cultural wisdom into the design of arts education. Integrating traditional musical instruments as learning media aligns with the spirit of the Merdeka Curriculum, which emphasizes differentiated and socially and culturally relevant learning for students. Therefore, curriculum developers are advised to design teaching modules or materials that blend international music methods with Indonesia's cultural richness. This way, learning not only improves technical competence but also strengthens students' cultural identity and appreciation.

Furthermore, this research opens avenues for further development in music education research. It is recommended that further studies be conducted with larger, more diverse samples and that additional variables, such as learning motivation, self-confidence, and the ability to teach music in real classroom settings, be explored. Further research could also test the effectiveness of similar models at the elementary education level to examine the downstream impact of teacher training that has implemented this approach. Thus, these findings not only constitute an academic contribution but also provide a foundation for ongoing, evidence-based, and culturally aware innovation in music education.

Credit authorship contribution statement

The **first author** was responsible for conceptualization, research methodology, formal data analysis, and data curation. The **second author** contributed to resource provision, project administration, and methodological support. The **third author** contributed to funding acquisition and supported formal analysis and data management. The **fourth author** contributed to translation, methodological assistance, and manuscript refinement.

Declaration of competing interest

The authors confirm that no financial or personal interests exist that could have affected the conduct or outcomes of this study.

Data Availability Statement

The datasets generated and analyzed in the current study are available from the corresponding author upon reasonable request. As the data contains human participant information, it is not publicly available to protect participant privacy.

Ethical Declaration

This research involved human participants and adhered to internationally recognized ethical standards. Before the study commenced, participants received clear information about the research objectives, procedures, and anticipated benefits. Written informed consent was obtained from all participants, who were assured that their participation was entirely voluntary and that they could withdraw from the study at any stage without negative consequences.

Acknowledgement

The authors sincerely thank all individuals who contributed to the completion of this study, but are not included as co-authors. Special appreciation is extended to the PGSD students who participated in the research and to the lecturers who provided valuable academic guidance throughout the research process. This study was conducted without financial support from public, commercial, or non-profit funding bodies.

Declaration of AI Statement

Portions of this manuscript were edited and refined using ChatGPT (OpenAI) to improve grammar, clarity, and academic writing quality. All AI-generated content was carefully reviewed and revised. And all

materials were verified by the authors, who accept complete responsibility for the accuracy, originality, and integrity of the published manuscript.

References

Choksy, L. (1999). *The Kodály Method I: Comprehensive Music Education*. Prentice Hall.

Damayanti, S. (2021). Efektivitas Metode Kodály dalam Meningkatkan Pemahaman Konsep Ritmik dan Melodik pada Mahasiswa Pendidikan Musik. *Jurnal Pendidikan Seni Musik*, 10(2), 45-58.

Ismail, M. J., Chiat, L. F., & ANUAR, A. F. (2021). Learning music through rhythmic movements in malaysia. Malaysian Journal of Learning and Instruction, 18. https://doi.org/10.32890/mjli2021.18.1.10

Istiqomariyah, I., Sutomo, M., & Fatmawati, E. (2023). Application of behavioristic learning theory in thematic learning. EDUTEC : Journal of Education and Technology, 6(3). https://doi.org/10.29062/edu.v6i3.573

Kusnadi, U., Mulyana, A., & Rachmania, S. (2023). Guru dan pembelajaran musik di sekolah dasar: Sebuah refleksi dalam tinjauan pedagogis-filosofis. *Naturalistic: Jurnal Kajian dan Penelitian Pendidikan dan Pembelajaran, 7*(2), 1652–1659. https://doi.org/10.35568/naturalistic.v7i2.3374

Kusnadi, U., Mulyana, A., & Rachmania, S. (2023). Guru dan pembelajaran musik di sekolah dasar: sebuah refleksi dalam tinjauan pedagogis-filosofis. Naturalistic: Jurnal Kajian Dan Penelitian Pendidikan Dan Pembelajaran, 7(2), 1652-1659. https://doi.org/10.35568/naturalistic.v7i2.3374

Kodály, Z. (1974). *The Selected Writings of Zoltán Kodály*. Boosey & Hawkes.

Lei, D., Cheng, J., Chen, C., Huang, K., & Chou, C. J. (2021). Discussion of teaching with multiple intelligences to corporate employees' learning achievement and learning motivation. Frontiers in Psychology, 12. https://doi.org/10.3389/fpsyg.2021.770473

Liu, K. and Jirigela, W. (2023). A study on the impact of music education on children's physical and mental development. Applied &Amp; Educational Psychology, 4(11). https://doi.org/10.23977/appep.2023.041107

Ludke, K. (2020). Integrated music education: Challenges of teaching and teacher training. *Didactica, 8*, 213–216. https://doi.org/10.1344/did.2020.8.213-216

Luen, L. C. and Ayob, A. (2019). The effect of kodaly's teaching method on preschool children's solfege singing with playing musical glasses skills. International Journal of Academic Research in Business and Social Sciences, 9(1). https://doi.org/10.6007/ijarbss/v9-i1/5788

Lukács, B. and Honbolygó, F. (2019). Task-dependent mechanisms in the perception of music and speech: domain-specific transfer effects of elementary school music education. Journal of Research in Music Education, 67(2), 153-170. https://doi.org/10.1177/0022429419836422

Magraner, J. S. B., Valero, G. B., Marín-Liébana, P., & Moret-Tatay, C. (2021). Effects of the educational use of music on 3- to 12-year-old children's emotional development: a systematic review. International Journal of Environmental Research and Public Health, 18(7), 3668. https://doi.org/10.3390/ijerph18073668

Mertasari, N. M. S., Paraniti, A. A. I., & Mahardika, P. A. (2023). Covid-19 effect: profile of student learning motivation during online learning. Nurture, 17(2), 129-136. https://doi.org/10.55951/nurture.v17i2.245

Modzelewska, B., Samluk, A., Wałejko, Ł., Muszyński, P., Szczepańska, J., & Kleszczewska,
E. (2017). Influence of risky and protective behaviors connected with listening to music on hearing loss and the noise induced threshold shift among students of the medical university of bialystok.

Family Medicine &Amp;amp; Primary Care Review, 1, 44-48. https://doi.org/10.5114/fmpcr.2017.65090

Mubarokah, L. and Nuvriasari, A. (2024). Peran kepemimpinan dan motivasi kerja terhadap organizational citizenship behavior dengan kepuasan kerja sebagai mediasi pada lembaga komite nasional pelestarian kretek (knpk). Lentera: Multidisciplinary Studies, 2(2), 255-266. https://doi.org/10.57096/lentera.v2i2.83

Nazerian, S., Abbasian, G., & Mohseni, A. (2021). Measurement and incorporation of zpd scenarios in developing writing accuracy in efl classes. Cogent Education, 8(1). https://doi.org/10.1080/2331186x.2021.1968735

Rahmawati, D. (2021). Angklung sebagai Media Pembelajaran Kolaboratif dalam Pendidikan Musik di Sekolah Dasar. *Jurnal Pendidikan dan Kebudayaan*, 11(1), 89-102.

Reynolds, B. S. and Hayes, L. J. (2021). Direct instruction of absolute pitch using the theremin as a musical instrument and experimental apparatus. Behavior Analysis in Practice, 15(3), 715-729. https://doi.org/10.1007/s40617-021-00621-4

Rochette, F., Moussard, A., & Bigand, E. (2014). Music lessons improve auditory perceptual and cognitive performance in deaf children. Frontiers in Human Neuroscience, 8. https://doi.org/10.3389/fnhum.2014.00488

Rodney, D. (2024). Relationship between music education and academic performance in elementary schools in jamaica. American Journal of Arts, Social and Humanity Studies, 4(1), 43-54. https://doi.org/10.47672/ajashs.2065

Salamah, U., Mufidah, N., Agil, I. M. B., & Soumena, I. M. P. H. (2021). Application of behavioristic learning theory in learning "ta'lim afkar". Advances in Social Science, Education and Humanities Research. https://doi.org/10.2991/assehr.k.210421.090

Sarnita, S. and Andaryani, E. T. (2023). Pertimbangan multikultural dalam pengembangan kurikulum untuk menghadapi keanekaragaman siswa. Jurnal Pendidikan Indonesia, 4(11), 1183-1193. https://doi.org/10.59141/japendi.v4i11.2233

Shutova, N. V., Суворова, О. В., Сорокоумова, С. Н., & Іванова, Н. (2021). The development of potential of students with a creative approach to education. E3S Web of Conferences, 273, 12037. https://doi.org/10.1051/e3sconf/202127312037

Silva, E. F. d., Mignaco, J. A., & Prosdocimi, F. (2024). Biosongs: enhancing cognition and emotional development through an active teaching-learning method in biosciences. Brazilian Journal of Development, 10(3), e68092. https://doi.org/10.34117/bjdv10n3- 046

Sysoieva, S., Ovcharenko, N., & Chebotarenko, O. (2021). Future music and art educators' professional development: theoretical and technological issues. Ukrainian Journal of Educational Studies and Information Technology, 9(3), 18-33. https://doi.org/10.32919/uesit.2021.03.02

Tabuena, A. C. (2021). Carabo-cone, dalcroze, kodály, and orff schulwerk methods. International Journal of Asian Education, 2(1), 9-16.

Teresa, M., & Ponsones, U. (2023). Innovative practices of elementary teachers in teaching music. In *Industry and Academic Research Review, 4*(1). http://www.editlib.org/p/112361/share

Tung, K. Y. and Satya, N. G. (2023). Improving the understanding of reading rhythm and notes in music education by using kodály and suzuki technique method in grade 8 junior high school xyz. Journal on Education, 5(2).

Váradi, J. (2022). A review of the literature on the relationship of music education to the development of socio-emotional learning. Sage Open, 12(1). https://doi.org/10.1177/21582440211068501

Vectore, C., Tormin, M. C., Silva, A. C. D. d., Silva, I. G. d., Piccolo, P. A. D., & Pavanin, T.

V. (2019). Linguagem musical em instituições infantis: avaliação de duas propostas para formação docente. Psicologia Escolar E Educacional, 23. https://doi.org/10.1590/2175-35392019019263

Vidulin, S. and Kazić, S. (2021). Cognitive-emotional music listening paradigm in professional music education. International Journal of Cognitive Research in Science, Engineering and Education (IJCRSEE), 9(1), 135-145.

Wei, W. (2022). Kodaly music teaching method develops in music education in local colleges and universities. International Journal of Education and Humanities, 5(2), 146-148. https://doi.org/10.54097/ijeh.v5i2.2127

Wei, W. (2022). Kodaly music teaching method develops in music education in local colleges and universities. International Journal of Education and Humanities, 5(2), 146-148. https://doi.org/10.54097/ijeh.v5i2.2127

Wibowo, A. (2022). Pergeseran paradigma pembelajaran: analisis dampak penerapan asesmen nasional dalam bingkai teori kognitif sosial. Madrasah: Jurnal Pendidikan Dan Pembelajaran Dasar, 14(2), 137-152. https://doi.org/10.18860/mad.v14i2.16023

Yulianti. (2021). Pentingnya pendidikan karakter untuk membangun generasi emas Indonesia. *Cermin: Jurnal Penelitian*.

Sugiyono. (2018). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Alfabeta.

Susanti, R. (2020). Penerapan Metode Kodály untuk Meningkatkan Kemampuan Membaca Notasi Musik Siswa Sekolah Dasar. *Jurnal Ilmu Pendidikan*, 25(1), 33-45.

Suryadi, A. (2019). Kompetensi Musik Guru Sekolah Dasar: Antara Teori dan Praktik. *Jurnal Pendidikan Guru*, 8(2), 112-125.

Wulandari, F. (2020). Pelestarian Budaya melalui Integrasi Angklung dalam Pembelajaran Musik di Sekolah. *Jurnal Seni dan Budaya Nusantara*, 15(3), 200-215.

[e-**ISSN 2598-5949** | p-**ISSN 2303-1514**]