

Implementation of a Traditional Kentongan Game Center-Based Learning Model to Improve Early Childhood Musical Intelligence at the Nu Roudlotut Tholibin Muslimat Kindergarten and the Nu Al Rohmah Muslimat Kindergarten

Rohmayanti, N.¹, Zamroni, E.², and Gudnanto³

^{1,2,3}Universitas Muria Kudus, Indonesia

*Corresponding Author: nurrahmayanti24@gmail.com

To Cite This Article:

Rohmayanti, N., Zamroni, E., and Gudnanto (2026). Implementasi Model Pembelajaran Berbasis Sentra Permainan Tradisional Kentongan Untuk Meningkatkan Kecerdasan Musikal Anak Usia Dini Di Tk Muslimat Nu Roudlotut Tholibin Dan Tk Muslimat Nu Al Rohmah. *ICCCM Journal of Social Sciences and Humanities*, 5(3). 50-54. <https://doi.org/10.53797/icccmjssh.v5i3.8.2026>

Abstract: The background of this research stems from the low stimulation of musical intelligence in early childhood, which is still predominantly facilitated through conventional methods such as passive singing and listening to music. One innovative alternative is the use of traditional kentongan games, which incorporate rhythmic elements, sound patterns, and coordinated movement in a meaningful and contextual manner. This study aims to: 1) Analyze the implementation of a learning model based on traditional kentongan game centers. 2) Examine the improvement of musical intelligence in early childhood using the kentongan based learning model. 3) Identify the supporting and inhibiting factors in the application of the kentongan game-based learning model for enhancing early childhood musical intelligence. This research uses a quantitative method with an experimental approach. The research subjects were children from groups A and B at TK Muslimat NU Roudlotut Tholibin, totaling 230 students. Data collection techniques included interviews, observation, and documentation. Data were analyzed using the one-sample Kolmogorov-Smirnov test with the SPSS for Windows program. The research results show improvements in: 1) Musical intelligence through the traditional kentongan game. In the experimental group, the game resulted in a highest score of 45 and the lowest of 37, with an average score of 40.47. In the control group, musical intelligence was stimulated through general play and singing activities, with the highest score being 37 and the lowest 26, and an average score of 32.87. 2) The effectiveness of the traditional kentongan game in enhancing early childhood musical intelligence falls under the moderate category, with an effectiveness rate of 62%, categorized as "Fairly Effective. 3) There are different supporting and inhibiting factors affecting the improvement of musical intelligence in early childhood through the use of traditional kentongan games.

Keywords: Application, Musical Intelligence, Inhibiting and Supporting

1. Introductions

Early childhood has unique characteristics, including physical, psychological, social, moral, and other aspects. Childhood is also the most crucial period of a child's life. This is because childhood is the time when the foundations and personality are formed, which will determine a child's future experiences. Given the importance of this age, understanding the characteristics of early childhood is essential if we want to raise a generation capable of optimal self-development. The importance of early childhood educational stimulation is supported by research, which states that by age 4, children have reached half of their intellectual potential, and by age 8, they have reached 80%. After age 8, regardless of the form of education and environment, a child's intellectual potential can only be changed by 20%. This means it can be assumed that these people include parents, siblings, peers, kindergarten teachers, and possibly caregivers. (Solano et al., 2017)

Diana (2021), Musical intelligence can actually emerge in every human being. It was revealed that large muscles in children aged 5-6 years develop first, allowing them to coordinate notes through the trunk, hands, and feet to express musical forms. Furthermore, Campbell and Kassner argued that children aged 5-6 years are able to sing a full octave, from C to C, and can sing two to three parts of a song. Musical intelligence is the capacity to perceive, differentiate, transform, and express musical forms.

Research indicates that by age 4, children have reached half of their intellectual capacity, and by age 8, it reaches 80%. After age 8, regardless of their education and environment, children's intellectual capacity can only be changed by 20%. This means it can be assumed that these people include parents, siblings, peers, kindergarten teachers, and possibly caregivers. (Solano et al., 2017)

Garro (2020) stated that imperfections in musical intelligence often occur during play activities and during classroom learning activities. The inability to play the traditional kentongan instrument occurs because the teacher's teaching aids are limited, inaccurate, and uninteresting, as well as the teacher's monotonous delivery, which results in communication difficulties for the children. To address this, efforts are needed to use effective media to improve communication skills in the classroom.

Based on the above background, this research is important because it analyzes the benefits of centered learning using the traditional kentongan instrument, including its potential to enhance character development, creativity, social development, musical skills, and its use in learning. The kentongan can be used as a character education tool for the younger generation. Through play and music, children can improve their concentration, perseverance, craftsmanship, and discipline, a reason rarely found in children's artistic character at the Muslimat NU Roudlotut Tholibin Kindergarten and the Muslimat NU Al Rohmah Kindergarten.

1.1 Conceptual framework

The society is in need of individuals who are critical thinkers, with skills in the art of questioning and those who can gain information in support to opinions using valid facts and truths. It has been shown that the substantial factors for the country's economic development are the scientific progress and technological advancement but citizens ought to enhance their scientific literacy in order to respond to the demands of the changing society as well as the continuous upgrading of current knowledge and skills (Mokyr, 2018).

Jean Piaget, on his cognitive development theory believes that school education must empower learners both men and women to do new things based on creativity, invention and discovery. These learners must verify and be critical to everything they deal with. Piaget also believes that the goal of education is not simply repeating what is being done from the past generations rather learn from it to improve more the present and future endeavor (Lillard, Lerner, Hopkins, Dore, Smith & Palmquist, 2013). In addition, an increase level of scientific literacy will help an individual to be more competitive professionals that will spearhead innovation in the field of work (Ogunkola, 2013).

The benchmark for Science Literacy: Project 2061 of the American Association for the Advancement of Science (AAAS) states that by the end of grades two, five and twelve, all students must be able to understand well about science, technology and mathematics (Roseman, Herrmann-Abell & Koppal, 2017). Benchmarks are important to help educators in describing the levels of understanding and abilities of different learners to ensure that they will become science literate. Concentrating on the common core of learning, this will help in contributing to the science literacy of the students although educators must also acknowledge that every student has their own abilities and interests to go beyond that common core and considering also their different learning difficulties.

1.2 Research objectives

The research location is at the NU Muslimat Kindergarten Roudlotut Tholibin and the NU Muslimat Kindergarten Al Rohmah, Jati District, Kudus Regency, Central Java Province.

2. Methodology

Data collection in this study involved a questionnaire distributed to teachers and parents. The questionnaire covered artistic expression through drawing, self-concept, and social sensitivity.

The data were analyzed quantitatively. Data analysis is the process of systematically searching for and organizing data. The data were obtained by distributing the questionnaires to the study respondents.

2.1 Research design

This research is a Pre-Experimental Design study. This study aims to examine the influence between the independent variables, namely center-based learning and musical intelligence, with the dependent variable, namely the traditional kentongan game. The analysis technique uses prerequisite test analysis. Before conducting the hypothesis test, a normality test is first conducted, which includes the normality test in this study using the Lilliefors test technique, also known as the Kolmogorov-Smirnov Z, with the help of the SPSS for Windows program.

2.2 Respondents of the study

The population frame of the study This research was conducted from January to May 2025. The research sample was taken from two kindergartens consisting of students. From a population of 420 children, the sample was 60 children. The sampling technique was random sampling, and the samples obtained were called random samples. The random sampling technique allows the research.

2.3 Sample how table should be placed is as below

In principle, research involves measuring, so a good measuring tool is essential. A measuring tool in research is usually called a research instrument. A research instrument is a tool used to measure observed natural or social phenomena. Research instruments are a crucial component in conducting research to obtain data. Several research instruments can be used to measure and collect empirical data as the values of the variables being studied.

Table 1. Number of Students per Institution

No	Study	Number of Students
1.	TK Muslimat NU Roudlotut Tholibin	30
2.	TK Muslimat NU Al Rohmah	30
Amount		60

3. Findings and discussion

This section is the main part of a research article and is usually the longest part of an article.

3.1 Knowledge

The implementation of the center learning model using the traditional kentongan game to improve musical intelligence in Group B students at Muslimat NU Roudlotut Tholibin Kindergarten and Muslimat NU Al Rohmah Kindergarten involved 60 children, who were divided into two groups. The experimental group used the traditional kentongan game, while the control group used a more traditional game. Treatment sessions were conducted twice a week (two days). Data were obtained through observations of both the experimental and control groups. The kentongan game was conducted by the researcher, who acted as the teacher for both groups.

The initial process before implementing the traditional kentongan game in the experimental group involved the teacher explaining to the children the traditional game to be played. In this context, the teacher re-explained the previous game and conveyed the objectives to be achieved in that day's activity. This study was conducted with 60 respondents at Muslimat NU Roudlotut Tholibin Kindergarten and Muslimat NU Al Rohmah Kindergarten. The characteristics of the respondents in this study are as follows:

Table 2. Mean, standard deviation and qualitative description of the respondents' scientific knowledge.

Kelompok	Jumlah Data	Jumlah Skor	Rata- rata	Skor Tertinggi	Skor Terendah
Eksperimen	15	359	23,93	29	17
Kontrol	15	380	25,33	30	15

The data obtained from the scores obtained from the learning outcomes of increasing musical intelligence in early childhood for the experimental group were given using the traditional kentongan game, while the control group used the lecture method. Before and after the treatment was given to both samples, the results were measured using a rating scale to determine the results of the achievement of conceptual understanding received by the students. The following is a description of the data obtained from the scores obtained after being given the treatment:

3.2 Sample of a figure is as below

The results of the normality test are used to determine whether the musical intelligence improvement data obtained are normally distributed or not. To determine whether the data is normally distributed or not, a statistical test called the One Sample Kolmogorov-Smirnov Test can be used with the SPSS for Windows program. The significant value of the normally distributed residual is if the Asymp.Sig (2-tailed) value in the One Sample Kolmogorov-SmirnovTest is greater than $\alpha = 0.05$ or 5%. The normality test in this study can be seen in the table.

Table 3. One Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		15
Normal Parameters ^{a,b}	Mean	0,000000
	Std. Deviation	3,81986601
Most Extreme Differences	Absolute	0,186
	Positive	0,117
	Negative	-0,186
Test Statistic		0,186
Asymp. Sig. (2-tailed)		0,174c

The results of the homogeneity test are used to determine whether a sample is homogeneous or not. The homogeneity test is usually used as a requirement in the t-test sample analysis with the basis for decision making if the significance value > 0.05 means the data distribution is homogeneous and if the significance value < 0.05 means the data distribution is not homogeneous. The homogeneity test conducted with the SPSS for Windows program produced the following results:

4. Conclusions and recommendations

As revealed in the study, the knowledge and process skills of the respondents are at par in the The implementation of the traditional kentongan game in the experimental group was significantly successful. The active method involved connecting wooden sticks to a bamboo kentongan and striking it to produce a sound, accompanied by a simple song. The effectiveness of the traditional kentongan game in improving musical intelligence was proven to be moderate, as the N-Gain Score was $0.3 < 0.62 < 0.7$, with an estimated effectiveness of 62% for the experimental group, which is considered quite effective.

There was a difference in the improvement of musical intelligence in early childhood between those who used the traditional kentongan game and the control group. This was demonstrated by a hypothesis test that obtained a t-count of 7.401 for the experimental group. This t-count was then compared with the t-table with $df = 28$, significance levels of 1% and 5%, resulting in t-table values of 2.763 and 2.048.

There were inhibiting factors. In this case, if $t\text{-count} < t\text{-table}$, H_0 is accepted. It turns out that $t\text{ count} > t\text{ table}$ ($7.401 > 2.763$ and $7.401 > 2.048$) then H_0 is rejected and there is a significant difference between the score results before and after treatment because the Sig. (2-tailed) value < 0.05 ($0.00 < 0.05$). Thus H_0 is rejected and H_1 is accepted. The conclusion is that there is a difference in the increase in musical intelligence of early childhood between the experimental group and the control group.

Acknowledgement

The author would like to express his gratitude for the participation of the selected NU Muslimat Kindergarten, Roudlotut Tholin, and NU Muslimat Kindergarten, Al Rohmah. He would also like to express his appreciation to the University's postgraduate program for their guidance and constructive analysis of the research findings.

Conflict of Interest

Authors declare there is no conflict of interest.

References

- Adiningtyas, S. W., & Ompusunggu, M. F. (2018). Hubungan Antara Konsep Diri Dengan Prestasi Belajar Siswa. KOPASTA: Jurnal Program Studi Bimbingan Konseling, 5(1), 23–31. <https://doi.org/10.33373/kop.v5i1.1448>
- Agusnuatih, A., & Monepa, J. M. (2009). KETERAMPILAN SOSIAL ANAK USIA DINI (Teori dan Metode Pengembangan) (H. N. Anggarasari (ed.)). EDU PUBLISHER.
- Algifari. (2011). nalisis Regresi, Teori, Kasus & Solusi. BPFE UGM.
- Amalina, K. A., Baharudin, Y. H., & Sholikhah, L. D. (2022). Hubungan Pola Asuh Orang Tua terhadap Kepekaan Sosial dan Kedisiplinan Siswa. Jurnal Ilmu Pendidikan, Psikologi, Bimbingan Dan Konseling, 3(1), 16–22.
- Diananda, A. (2018). URGENSI PENDIDIKAN KARAKTER DALAM PEMBENTUKAN KONSEP DIRI ANAK. Jurnal Pendidikan Dan Pemikiran Islam-ISTIGHNA, 1, 1–21.
- Fitri, W. S., Sariah, & Bakhtiar, N. (2020). Optimalisasi Perkembangan Sosial Anak Usia 5-6 Tahun dalam Pembelajaran Area Seni melalui Kegiatan Meronce. Kindergarten: Journal of Islamic Early Childhood Education, 3(2), 107–114. <http://ejournal.uin-suska.ac.id/index.php/KINDERGARTEN/article/view/10973>

- Ghozali, I. (2005). *Aplikasi Analisis Multivariate dengan SPSS*. Badan Penerbit UNDIP.
- Hendri, H. (2019). Peran Pola Asuh Orang Tua Terhadap Pembentukan Konsep Diri Pada Anak. *At-Taujih : Bimbingan Dan Konseling Islam*, 2(2), 56. <https://doi.org/10.22373/taujih.v2i2.6528>
- Irmade, O., Widjanarko, P., Titi Andaryani, E., & Slamet Riyadi Surakarta, U. (2022). Pelatihan Memahami Pendidikan Seni Anak Usia Dini Bagi Guru-Guru Paud. *Journal of Character Education Society*, 5(2), 408–414. <http://journal.ummat.ac.id/index.php/JCEShttps://doi.org/10.31764/jces.v3i1.7913https://doi.org/10.31764/jces.v3i1.XXX>
- Laricci, O. (2017). PENGARUH KONSEP DIRI TERHADAP AKTIVITAS BELAJAR SISWA PADA MATA PELAJARAN FIKIH DI MADRASAH TSANAWIYAH MASMUR PEKAN BARU. Universitas, Islam Negeri Sultan Syarif Kasim Riau.
- Lita, A. A. (2018). Pendidikan Seni Rupa dan Implikasinya terhadap Imajinasi Kreatif dan Sosial Emosional Anak Usia Dini Di TK Mekarrahaja. *Islamic Early Childhood Educa-Tion*, 3(1), 97–110.
- Nisa, R. C., Chandra, A., Sagala, D., & Khasanah, I. (2019). PENGARUH MEDIA CELEMEK
- Angorowati, D. A., Rudin, A., Oleo, U. H., & Antisosial, P. (2023). Pengaruh Layanan Bimbingan Kelompok terhadap Kepekaan Sosial Siswa. 2, 153–164.
- Arikunto, S. (2013). *Prosedur Penelitian: Suatu Pendekatan Praktik*. Rineka Cipta.
- Arikunto, S. (2016). *Prosedur Penelitian Suatu Pendekatan Praktik*. PT. Rineka Cipta.
- Arikunto, S. (2021). *Dasar-dasar Evaluasi Pendidikan Edisi 3*. Bumi Aksara.
- Citrowati, E., & Mayar, F. (2019). STRATEGI PENGEMBANGAN BAKAT SENI ANAK USIA DINI. *Jurnal Pendidikan Tambusai*, 3, 1207–1211.
- https://www.minsal.cl/wp-content/uploads/2019/01/2019.01.23_PLAN-NACIONAL-DE-CANCER_web.pdf
- Dewi, R. V. K., Mustaring, D. I., & Sunarsi, D. (2021). Metode Stimulasi Multiple Intellegences bagi Anak Usia Dini (M. Dewi (ed.)). Cipta Media Nusantara.
- Diananda, A. (2018). URGENSI PENDIDIKAN KARAKTER DALAM PEMBENTUKAN KONSEP DIRI ANAK. *Jurnal Pendidikan Dan Pemikiran Islam-ISTIGHNA*, 1, 1–21.
- Fitri, W. S., Sariah, & Bakhtiar, N. (2020). Optimalisasi Perkembangan Sosial Anak Usia 5-6 Tahun dalam Pembelajaran Area Seni melalui Kegiatan Meronce. *Kindergarten: Journal of Islamic Early Childhood Education*, 3(2), 107–114. <http://ejournal.uin-suska.ac.id/index.php/KINDERGARTEN/article/view/10973>
- Ghozali, I. (2005). *Aplikasi Analisis Multivariate dengan SPSS*. Badan Penerbit UNDIP.
- Hendri, H. (2019). Peran Pola Asuh Orang Tua Terhadap Pembentukan Konsep Diri Pada Anak. *At-Taujih : Bimbingan Dan Konseling Islam*, 2(2), 56. <https://doi.org/10.22373/taujih.v2i2.6528>