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The Effectiveness of Use of the Android-Based Sipak Batu Game on Music Intelligence in Children Early 5-6 Years Old

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Abstract

Musical intelligence is a person's ability to remember a series of notes and rhythms and express them through musical activities. Children with this intelligence tend to enjoy listening to songs, enjoy the songs, and can even sing/play the songs with the right notes. This research aims to see how effective the Sipak Batu game is on the intelligence of early childhood. This research was conducted in the city of Padang, West Sumatra. Test the effectiveness of the traditional method of playing the Sipak Batu game using the paired t test. Respondents in the study were fifteen children at the Amalan Kindergarten. The effectiveness test of the Sipak Batu game was carried out using the one-group pretest-posttest experimental method. The respondents in this study were 15 children. The results of data analysis showed an average increase before being given treatment, namely 34.73, compared to after being given treatment, namely 40.40. From the calculated t, it is -10.159 with a probability/significance level of 0.000 (p value < 0.05), meaning that H₀ is rejected because there is a significant change between before using the Sipak Batu game (pretest) and after using the Sipak Batu game (posttest). So it can be concluded that the Android-based traditional Minangkabau game Sipak Batu is effectively used to develop the musical intelligence of children aged 5-6 years.

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Keywords: Musical Intelligence, Early Childhood, Sipak Batu Game

Introduction

Early childhood education is essentially education that is organized with the aim of facilitating the child's overall growth and development or emphasizing the development of all aspects of the child's personality. Therefore, early childhood children are included in the general pre-school group where in this group children want to play, do group exercises, explore, ask questions, imitate and create things. At this time children experience rapid progress in self-help skills and in play skills. Through games, learning activities are carried out in a fun way. Apart from that, through play children learn about: mathematics, science, art and creativity, language, social concepts, etc. During play, children gain experience to develop moral, physical/motor, cognitive, language and artistic aspects/ values. So by playing ability children in thinking and learning, solving problems, and the ability to adapt to new environments. Intelligence comes from the word intelligere which means connecting or uniting one another. Musical intelligence includes sensitivity to the rhythm and pitch of sound, differences in tone of voice, and the ability to play and compose songs (Rahmayanti & Sutama, 2022) ^[15]. Musical intelligence involves the ability to sing a song, remember musical melodies, have a sense of rhythm, or simply enjoy music (Wati *et al.*, 2022) ^[18].

Musical intelligence is manifested in people's sensitivity to music, songs, rhythm, and so on. Teachers can train students to develop this intelligence with several exercises such as recognizing tone of voice, practicing song rhythms, singing, playing musical instruments such as angklung, gamelan, band, piano, trumpet, and so on. Recognizing environmental sounds,

instrumental sounds, even people's voices (Foti, 2020) [7]. Students can be taught to play simple musical instruments and then perform them.

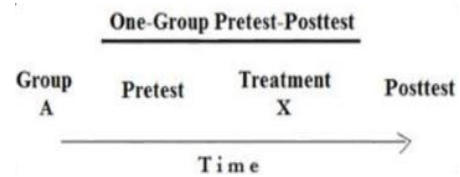
So it would be very good if every school had a music group, because this activity not only helps develop the musical intelligence of the players, but also the listeners. According to Gagner, musical intelligence is the earliest form of human talent to emerge. Skills in music depend on increasing life experience. Therefore, children who have musical talent need to be nurtured and used as an additional means to improve learning (Ajeng Ninda Uminar, 2023) [1].

Musical intelligence is one of the multiple intelligence developments that is important to develop in children from an early age. Musical intelligence is the ability to understand musical forms by perceiving (music lovers), distinguishing (music critics), changing (composers), expressing (singing). Intelligence, sensitivity to rhythm, pitch patterns in melodies, and tone color or sound color of a song. Republic of Indonesia Government Regulation no. 27 of 1990 concerning preschool education in Chapter 1, article 1, paragraph (2) states: Kindergarten is a form of preschool education that provides early education programs for children aged six years before entering basic education. Preschool education units include kindergartens, playgroups and child care. Kindergarten is in the school education route, while play groups and child care are in the out-of-school education route. The development of musical intelligence in early childhood has an urgency that cannot be ignored. This is more than just acquiring musical skills, but also becomes the basis for the child's overall development. Early childhood education follows the principle of learning through play (Virganta *et al.*, 2020) [17]. to train and stimulate the extraordinary growth and development of children, learning in early childhood must also be presented in a fun and interesting way. Optimal development in early childhood includes providing stimulation that suits each child's interests and talents. One aspect that is crucial to cultivate is musical intelligence (Mills, 2021) [11]. Factors that influence musical intelligence include motivation from those closest to the child, the child's brain intelligence level, social skills, visual intelligence, environmental factors, communication skills, reading ability, socialization, behavior, and the child's health and nutrition.

Facts about the problem in the field based on observations from one of the kindergartens in Padang and interviews with teachers obtained data showing that musical intelligence is very high low. 1) Children cannot remember the rhythm of a melody, 2) There are children who cannot yet enjoy song lyrics when singing, 3) There are still children who have difficulty remembering songs so that when children are asked to sing they cannot sing them, 4) Children are less able to understand musical structure, rhythm and notes 5) The child's articulation is still unclear when singing. Based on the facts of the problem and the results of previous research that have been described, it is necessary to conduct research on the effectiveness of Android-based traditional Minangkabau games for developing the musical intelligence of young children. The traditional Minangkabau game is one of the efforts so that educators can see musical intelligence in children. The reason for choosing the traditional Minangkabau game Sipak Batu is because it is something that attracts children's attention and creates a more enjoyable atmosphere and is in line with the developmental needs of early childhood. The game was created based on a design for preparing audio-visual media in the form of moving images, namely video (animation).

Research Methods

The research design used in this research is "One Groups Pretest-Posttest Design", namely a research design that includes a pretest before treatment and a posttest after treatment.



Results and Discussion

The effectiveness of traditional Minangkabau games *Sipak Batu* Android-based to develop musical intelligence in young children aged 5-6 years with a post-test and pre-test design. Researchers do *pretest* to determine children's musical intelligence before being given treatment using traditional games *Sipak Batu* Android based. After *pretest* the meal was finished, the researchers continued to provide treatment with traditional games *Sipak Batu* based on Android for 5 meetings. After the treatment was completed, the researcher carried out *posttest* to measure children's musical intelligence after being given treatment. Result of *pretest* And *posttest* used as a reference for testing the effectiveness of the data. Here are the scores *pretest* and *posttest* *Pretest* and *posttest* games *Sipak Batu* Android-based for the musical intelligence of children aged 5-6.

Table 1: Testing the effectiveness of the data

| NO | Name | PRE | POST | Ket |
|---------|------|-------|------|----------|
| 1 | AL | 38 | 46 | Increase |
| 2 | KH | 34 | 42 | Increase |
| 3 | RD | 36 | 43 | Increase |
| 4 | NVL | 37 | 45 | Increase |
| 5 | RM | 32 | 41 | Increase |
| 6 | SS | 37 | 42 | Increase |
| 7 | NBL | 36 | 40 | Increase |
| 8 | QEEN | 35 | 39 | Increase |
| 9 | ZD | 32 | 37 | Increase |
| 10 | AD | 37 | 41 | Increase |
| 11 | RN | 33 | 38 | Increase |
| 12 | TGH | 35 | 42 | Increase |
| 13 | KYH | 31 | 37 | Increase |
| 14 | FRHN | 35 | 36 | Increase |
| 15 | AY | 33 | 37 | Increase |
| Amount | | 521 | 606 | Increase |
| Average | | 34,73 | 40,0 | Increase |

Based on the effectiveness test analysis, the average pretest value is 34.73 and the average posttest score was 40.0. Researchers found that children looked enthusiastic and enthusiastic about playing the Sipak Batu game. The reason is that, according to the teacher, the Sipak Batu game is something new for children because usually digital media is only used to display images, while the Sipak Batu game is equipped with video music. In accordance with research from (Chicoine, 2016) [4] which states that an application that is created creatively and innovatively can provide a strong attraction for children. Apart from that, videos and music are

also factors that support children's interest in playing, which is in accordance with research from (Oswari *et al.*, 2020) ^[13] explaining that learning accompanied by music videos can

help children's success in learning and can improve all aspects of a child's development. Furthermore, the children looked patient in waiting for their turn to play.



Fig 1: Children looked patient in waiting for their turn to play

The Android-based Sipak Batu game is in accordance with the concept of playful learning because activities that can develop musical intelligence in children are carried out through game media. The learning given to early childhood uses the Playful Learning method, namely fun activities through games. This is also in line with research from (Gelisli & Yazici, 2015) ^[8] which states that games are very necessary for young children to maximize their learning process. The Sipak Batu game is equipped with the traditional Sipak Tekong gameplay which has been modified into the Android-based Sipak Batu game. The Sipak Batu game is adapted to the daily game activities of children 5-6 years old. Because of the opinion of (Piper *et al.*, 2018) ^[14] children can learn musical intelligence through playing activities so that children can remember rhythms that are easy for children to understand. So with this game children can sequence tones (sounds with regular vibrations) that sound in a rhythmic sequence, and express something idea.

Traditional Android-based games based on suitability of media to theme. Suitability of media based on the level of musical achievement of children 5-6 years old. According to (Khamidah & Yulia, 2022) learning media must be based on educational studies by paying attention to the applicable curriculum, the scope of development areas being developed, and the characteristics of students. The suitability of the composition of the Sipak Batu game includes colors, images and writing to stimulate children's music. Music from an early age improves cognitive abilities and language development. Involving children in musical activities during childhood has a positive impact on cognitive, emotional and language development (Novitasari & Utami, 2021) ^[12]. In particular, musical intelligence stimulates cognitive growth, helping children understand abstract concepts such as patterns, sequences and musical structures (Virganta *et al.*, 2020) ^[17]. In addition, music and song activities improve fine motor skills and overall body coordination, which is the basis for developing holistic motor skills (As'ad *et al.*, 2019) ^[2]. The ease and uniqueness of the media motivates children's enthusiasm for learning. According to (Fachrurazi & Kinasih, 2022) ^[6] the use of learning media can foster students' interest and attraction to learn new things in understanding the learning material presented by the teacher so that they can be understood. In this game there are animated videos so that when children play they can also listen to the available songs. By using this game Children can enjoy song lyrics and children can remember songs easily. The Sipak Batu game is able to improve children's memory

skills as demonstrated by singing songs with the theme of land transportation and being able to explore land transportation stories. According to (Harmonis *et al.*, 2022) ^[9] as a learning resource to obtain information to support and develop children's curiosity and improve memory abilities. Apart from that, it is feared that prohibiting or keeping children away from Android will actually increase children's curiosity. Meanwhile, introducing children to when and how to use Android will actually help children to use Android safely. The Sipak Batu game is a concrete form where the learning media is adapted to the theme and level of achievement of children's musical intelligence. The Sipak Batu game can stimulate children's musical abilities and motivate children's learning. According to (Evrudawati *et al.*, 2020) ^[5] Media as a learning resource for early childhood must have concrete properties which will foster interest and be interesting for children. These things that must be considered are suitability to the child's physical capacity, suitability to the child's social and mental development, can be used in groups of children and the construction is good, durable and safe for the children in the group. Through playing the Sipak Batu game, children's musical intelligence can develop because in this game children listen to songs while playing, children can express themselves, transform from quiet to more active, cheerful, and enthusiastic. Apart from physical and cognitive aspects, musical intelligence contributes significantly to children's emotional development (Wulandari *et al.*, 2020) ^[19]. Music functions as a medium for children to express thoughts and feelings, convey statements or messages, and has the power to move hearts with a sense of aesthetic appreciation (Ayunita *et al.*, 2023) ^[3].

Conclusion

Use of traditional games *Sipak Batu* Android-based is carried out with the aim of providing a new breakthrough in helping children aged 5-6 years to develop musical intelligence. The situation that occurs in the field illustrates that children are experiencing problems in musical intelligence. This is due to a lack of knowledge and ability of teachers in creating creative, innovative and interesting media for children. Gaming use *Sipak Batu* is something that is appropriate, meaning that the learning media used is in accordance with basic competencies, b) effective, meaning that the learning media used is able to increase student motivation, c) varied, meaning that the learning media used is able to encourage students' active attitudes in learning.

References

1. Uminar AN. The use of percussion instruments to improve musical intelligence of young children. *Journal of Childhood Development*. 2023;3(1):30-8. doi:10.25217/jcd.v3i1.3282.
2. As'ad MAB, Rahman MA, Salija K. Exploring students' EFL learning through Gardner's multiple intelligences theory; c2019.
3. Ayunita S, Lubis HZ, Hakim N, Sa N. Groovy eco beats: Elevating musical intelligence in preschoolers through upcycled drum band games. *Journal of Innovative Early Childhood Studies*. 2023;3:175-83. doi:10.31958/jies.v3i2.11563.
4. Chicoine LE. Identifying national level education reforms in developing settings: An application to Ethiopia; c2016.
5. Evridawati B, Yufiarti, Yetti E. The cognitive style and attachment on early childhood speech skills. *JPUD - Jurnal Pendidikan Usia Dini*. 2020;14(1):32-42. doi:10.21009/jpud.141.03.
6. Fachrurrazi A, Kinasih T. Pelatihan media interaktif untuk pembelajaran pengembangan kemampuan sosial anak usia dini. *Kanigara*. 2022;II(1):186-94.
7. Foti P. The cultivation of musical intelligence and its contribution to child's development: A digital music lesson in kindergarten with parents' input. *European Journal of Education Studies*. 2020;6(12):235-46. doi:10.5281/zenodo.3686320.
8. Gelisli Y, Yazici E. A study into traditional child games played in Konya region in terms of development fields of children. *Procedia - Social and Behavioral Sciences*. 2015;197:1859-65. doi:10.1016/j.sbspro.2015.07.247.
9. Harmonis M, Syafri F, Widat F, Rumlystiowati R, Agustin N. Meningkatkan kecerdasan visual spasial anak usia dini melalui media game Gartic. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*. 2022;6(4):3578-89. doi:10.31004/obsesi.v6i4.2070.
10. Khamidah A, Yulia NKT. Pengembangan media pembelajaran pop-up book dalam pembelajaran bahasa melalui tema binatang untuk anak usia 4-5 tahun di RA Bahrul Ulum Sawahan Turen-Malang. *Juraliansi: Jurnal Lingkup Anak Usia Dini*. 2022;2(1):8-17.
11. Mills SW. The role of musical intelligence in a multiple intelligences focused elementary school. *International Journal of Education and the Arts*. 2001;2(4):1-29.
12. Novitasari K, Utami NR. Being a smart parent: A handbook for educating children based on multiple intelligences. *Proceedings UPY*; c2021.
13. Oswari T, Hastuti E, Chandra R. Minangkabau language learning based on Android application; c2020.
14. Piper B, Zuilkowski SS, Kwayumba D, Oyanga A. Examining the secondary effects of mother-tongue literacy instruction in Kenya: Impacts on student learning in English, Kiswahili, and mathematics. *International Journal of Educational Development*. 2018;59:110-27. doi:10.1016/j.ijedudev.2017.10.002.
15. Rahmayanti DZ, Utama. Pembudayaan literasi numerasi dalam kegiatan inti pembelajaran matematika di sekolah menengah pertama. *Jurnal Riset Pembelajaran Matematika Sekolah*. 2022;6(2):19-24. doi:10.21009/jrpms.062.03.
16. Syafri F, Kusuma WH, Syafri FA. The effect of playing dol musical instruments on the musical intelligence of children aged 4-5 years in PAUD Haqiqi, Bengkulu City. *Proceedings of the International Conference on Educational Sciences and Teacher Profession (ICETeP 2020)*. 2020;532:181-5. doi:10.2991/assehr.k.210227.032.
17. Virganta AL, Kamtini K, Nurmaniah N, Tanjung SH. Learning model based on multiple intelligence in stimulating musical intelligence in children. *Budapest International Research and Critics in Linguistics and Education (BirLE) Journal*. 2020;3(4):2015-23. doi:10.33258/birle.v3i4.1432.
18. Wati SG, Sari AM, Saputra A, Estuhono E, Apreasta L, Rahmadani R. Pengembangan media video pembelajaran sentra tema alam semesta subtema gejala alam. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*. 2022;6(5):4049-56. doi:10.31004/obsesi.v6i5.2520.
19. Wulandari H, Muqodas I, Nikawanti G, Ardiyanti D. Multiple intelligence of early children in creative dance. *The 3rd International Conference on Elementary Education (ICEE 2020)*. 2020:570-7.