Unlocking Musical Brilliance: How Traditional Talempang Pacik Music Enhances the Intelligence of Children Aged 5-6 Years

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Abstract

This study aims to determine the effect of playing the traditional musical instrument Talempang Pacik on the musical intelligence of children aged 5-6 years. The research employs a quantitative approach using an experimental method. The sample consists of 21 children selected through simple random sampling. Data collection techniques include observation sheets to assess the development of children's musical intelligence. Data analysis is conducted using a t-test. The results show a significant influence of playing the traditional musical instrument Talempang Pacik on the musical intelligence of children aged 5-6 years, with a t value greater than tₜ (39.28 > 2.08), leading to the rejection of the null hypothesis (h₀) and acceptance of the alternative hypothesis (h₁). This indicates that playing the traditional musical instrument Talempang Pacik can be an effective means of supporting learning to develop children's musical intelligence.

Keywords: Traditional Musical Instruments, Talempang Pacik, Musical Intelligence, Early Childhood

Abstrak

Penelitian bertujuan untuk mengetahui pengaruh permainan alat musik tradisional talempang pacik terhadap kecerdasan musikal anak usia 5-6 tahun. Jenis penelitian yang digunakan adalah penelitian kuantitatif dengan menggunakan metode eksperimen. Sampel yang digunakan pada penelitian ini yaitu simple random sampling yang berjumlah 21 anak. Teknik Pengumpulan data menggunakan lembar observasi perkembangan kecerdasan musikal anak. Teknik analisis data menggunakan uji t. Hasil penelitian menunjukkan terdapat pengaruh permainan alat musik tradisional talempang pacik terhadap kecerdasan musikal anak usia 5-6 tahun dengan nilai t₀ lebih besar dari t₁ (39.28>2.08,) maka hipotesis nihil (h₀) ditolak dan hipotesis alternatif (h₁) diterima, artinya permainan alat musik tradisional talempang pacik tersebut dapat menjadi salah satu sarana penunjang dalam pembelajaran untuk mengembangkan kecerdasan musikal anak.

Kata Kunci: Alat Musik Tradisional, Talempang Pacik, Kecerdasan Musikal, Anak Usia Dini

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INTRODUCTION

Early childhood is a period of rapid development that is crucial for later life (Innes et al., 2023; S. M. Sari & Setyaningsih, 2023; Warmansyah, Suzanne, et al., 2023; Wulandani & Putri, 2022). This stage, often referred to as the "golden age," requires appropriate education to be navigated successfully. Providing early education is essential for fostering intelligent and high-quality future generations. One effective approach is to enhance educational facilities in the surrounding environment to optimally stimulate children's innate intelligence.

There are eight types of intelligence in children that can be stimulated, including logical-mathematical intelligence, linguistic intelligence, musical intelligence, visual-spatial intelligence, kinesthetic intelligence, interpersonal intelligence, intrapersonal intelligence, and naturalistic intelligence (Agustina, 2004). Therefore, early childhood education is crucial to guide and encourage the potential of each child to develop optimally according to their intelligence type. Thus, teachers must understand the specific needs or individual needs of children, including musical intelligence.

According to Gardner, musical intelligence is one of the eight types of intelligences in the theory of multiple intelligences developed in his book "Frames of Mind: The Theory of Multiple Intelligences" in 1983. In this regard, Gardner states that musical intelligence not only encompasses the ability to play musical instruments but also includes a child's understanding of rhythm, melody, and the ability to create, produce, and comprehend music (Ardiana, 2022).

Musical intelligence is the ability of a person to prepare, distinguish, and express various forms of music. Musical intelligence involves timbre sensitivity, rhythm awareness, melody, and timbre color (Putri & Yeni, 2019). According to Agustin (2013), children with musical intelligence exhibit characteristics such as adjusting tones, enjoying songs and moving their bodies to music rhythms, tapping objects on the table while writing or drawing, enjoying playing musical instruments or even composing music with unused objects, enjoying singing, humming, or whistling, recognizing sounds around them like motorcycles, birds, flowing water, or wind. A song can be easily recognized by a child just by hearing the first note of a song, and the child's response to surrounding sounds.

Children with exceptional musical intelligence are more sensitive to sounds around them. This sensitivity often manifests spontaneously when a child hears sounds with different tones (Yeni, 2015). In this case, musical intelligence means the ability to store tones in a person's mind, to remember the rhythm of a song with emotional influence by music. Children with musical intelligence have three parts: tone adjustment, adjusting between rhythm and tempo, and playing simple musical instruments (Setyawati et al., 2017). The benefits felt by children when their musical intelligence is well stimulated include increasing creativity and imagination, increasing children's intelligence, improving memory, and helping to teach other intelligences to children (Riadi et al., 2023).
There are several strategies to stimulate musical intelligence in children, such as encouraging children to change song lyrics, memorizing age-appropriate songs, providing approaches and motivations for children to participate in music clubs, introducing children to simple musical instruments or traditional musical instruments in their environment (Muyassaroh, 2019; Yulianti, 2016). According to (Fauzah et al., 2023), ways to stimulate children's musical intelligence include teaching them to play music. Ways to stimulate children's interest in musical intelligence are: (1) teaching children various music concepts (2) teaching children age-appropriate songs (3) listening to music/songs for children (4) providing facilities for children to play their own musical instruments (5) involving children in music activities (6) listening to music while studying (7) helping children compose songs (8) giving children the opportunity to participate in music.

It is important to stimulate musical intelligence by involving children in music art activities, as developing children's intelligence effectively and efficiently is done from an early age. The development of musical intelligence in children aged 5-6 years is marked by their ability to play musical instruments (Lailiyah, 2020). This is in line with the opinion of Setyawati et al., (2017), who state that musical intelligence has three components: children can adjust tones, adjust between rhythm and tempo, and play simple musical instruments. In stimulating musical intelligence in children, educators can design learning activities appropriately, naturally, warmly, and enjoyably. Playing activities provide opportunities for children to interact with friends and their environment, and various individual factors and children's interests need to be considered (Sit et al., 2016). Children's musical intelligence can be nurtured in activities related to musical instruments.

Field observations conducted in August 2023 at TK IT Qurrata A’yun Malana Batusangkar showed that in music and body movement activities, 10 out of 21 children experienced difficulties in adjusting the tones taught when playing musical instruments, matching tempo when hitting musical instruments, rhythm patterns that had not yet formed so that children were not synchronous in hitting musical instruments, and the lack of Minangkabau traditional musical instruments such as talempong pacik. These problems are supported by interviews with one of the educators at TK IT Qurrata A’yun Malana Batusangkar, who also needs learning media related to Minangkabau traditional musical instruments that can stimulate children's musical intelligence.

One activity to enhance musical intelligence in children is playing the traditional musical instrument talempong pacik. Play is something used to play, both in the form of goods and as something that can be used for play (Khamidah & Sholichah, 2022; Nuha & Munawaroh, 2022; Warmansyah, Ismandela, et al., 2023; Warmansyah, Utami, et al., 2023; Widjanarko & Andaryani, 2022). A musical instrument is a device intentionally created or adapted for the purpose of producing musical sounds. Instruments are made in various shapes and designs and use various materials. According to its history, musical instruments were initially made from easily found objects around them, such as
seashells or animal skins and parts of plants (Qoyum & Atika, 2021). Traditional musical instruments are used as forms of expression and have cultural values consistent with tradition. Traditional music is music originating from the traditions of a particular community, so its continuity in the context of the present is an effort to preserve cultural heritage from one generation to the next generation from the previous community to future generations (Solihin et al., 2022).

The talempong pacik is a traditional Indonesian musical instrument originating from Minangkabau, which is shaped like a small gong held (pacik) with a striking play technique (Wimbrayardi & Parmadi, 2021). The talempong pacik musical instrument is made of copper metal, which is easy to play and not dangerous when played by children (Purnomo & Aulia, 2021). By using the talempong pacik musical instrument, children will be more active, and they will be happy when entering the environment. Children will easily develop their abilities based on things that are easy to start from people who are close to their environment. The existence of the Talempang pacik game can help educators to develop musical abilities in children aged 5-6 years (Ikhsan & Astuti, 2018).

Based on previous research by Novela & Yeni (2020), it can be explained that using the talempong pacik musical instrument to stimulate musical intelligence in children will experience improvement, such as children being able to enjoy songs and adjust their voices to music accompaniment and play simple musical instruments or percussion. The results of research by Fauzah et al., (2023) also stated that traditional musical instruments, such as angklung, which are still classified as traditional musical instruments, can also increase children's musical intelligence, such as the ability to enjoy, observe, distinguish, and express musical forms.

To reduce the above problems, researchers use traditional musical instruments, including the talempong pacik, to conduct research on the development of musical intelligence in children. According to Yusman & Indrayuda (2019), talempong pacik is a type of bonang musical instrument (Java), reong (Bali), or toto buang (Bali) made of copper or iron metal in the form of a small gong played by pacik and struck both in place and walking. In addition to stimulating children's musical intelligence, introducing talempong pacik to children can preserve Minangkabau culture because this research was conducted in the Batusangkar area, which is generally known as a cultural city. By using the talempong pacik musical instrument, children will be more active, and they will be happy when entering the environment. Children will easily develop their abilities based on things that are easy to start from people who are close to their environment. The existence of the Talempang pacik game can help educators to develop musical abilities in children aged 5-6 years (Yulsyofriend, 2021).

In this research, the researchers hope that by using the talempong pacik musical instrument as a medium, it can provide a foundation for children to be useful for all parties, especially teachers in developing musical intelligence in children.
METHODS

This research employs a quantitative approach using an experimental method with a Pre-Experimental design type of one group pretest and posttest design. The study was conducted at TK IT Qurrata A’yun Malana Batusangkar, located in Tanah Datar Regency. In this research, the researcher used simple random sampling, which involves randomly selecting samples.

Table 1. Research Design

<table>
<thead>
<tr>
<th>Group</th>
<th>Pretest (O1)</th>
<th>Treatment (X)</th>
<th>Posttest (O2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiment</td>
<td>O1</td>
<td>X</td>
<td>O2</td>
</tr>
</tbody>
</table>

In this design, there is no control group because only one subject group is used. O1 represents the initial observation results, X represents the intervention given, and O2 represents the results after the intervention. O1 undergoes a pretest to measure the level of musical intelligence of children at TK IT Qurrata A’yun Malana Batusangkar before using the traditional musical instrument talempong pacik. The treatment (X) is then applied to this subject group. A posttest (O2) is subsequently conducted to measure the children's musical intelligence after receiving the treatment (X). Data collection techniques include observation sheets to assess the development of children's musical intelligence. Data analysis is conducted using a t-test.

RESULTS AND DISCUSSION

Results

The results of this study were obtained from pretest and posttest data collection. The pretest data was gathered before administering the treatment, and the posttest data was collected after the treatment was applied.

Data Description

This study was conducted over six sessions, which included one pretest session, four treatment sessions, and one posttest session. The pretest was conducted on October 10, 2023, with each session lasting 60 minutes. The pretest data results are as follows:
Based on the above graph, it can be seen that in the Pre-Test activity, the children's musical intelligence was categorized as underdeveloped, with an average score of 8.4. This indicates that the musical intelligence of the children at TK IT Qurrata A’yun Malana Batusangkar is still relatively low. Therefore, further treatment is needed to stimulate the children's musical intelligence. After obtaining the pretest data, the posttest results can be presented in the following graph:

Based on the above table, it can be seen that in the posttest activity, children's musical intelligence was categorized as developing as expected for 7 children and developing very well for 14 children. The average score of the children's musical intelligence in this activity was 21. This indicates that through the activity of playing the traditional musical instrument talempong pacik, the children's musical intelligence has
increased. To compare the results of the pretest and posttest after the treatment was administered, the following graph can be observed:

Graph 3. Comparison of Pretest and Posttest Musical Intelligence in 5-6 Year Old Children at TK IT Qurrata A’yun Malana Batusangkar

From the graph above, it can be seen that the children's musical intelligence has improved after receiving four treatment sessions using the traditional musical instrument talempong pacik.

**Data Analysis**

**Normality Test**

In this study, the researcher used data with a normal distribution. The purpose of the normality test is to identify whether the data from each variable is normally distributed. The normality test was conducted using the Shapiro-Wilk method, and the results are presented in the following table, utilizing SPSS version 20 statistical data processing software.

<table>
<thead>
<tr>
<th></th>
<th>Kolmogorov-Smirnov&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Shapiro-Wilk</th>
</tr>
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<tr>
<td></td>
<td>Statistic</td>
<td>df</td>
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<tr>
<td>pretest</td>
<td>.195</td>
<td>21</td>
</tr>
<tr>
<td>posttest</td>
<td>.167</td>
<td>21</td>
</tr>
</tbody>
</table>

* a. Lilliefors Significance Correction

Based on the normality test results from the pretest and posttest, it is evident that the data is normally distributed. The pretest result was 0.037, which means 0.037 > 0.05. The posttest result was 0.070, which means 0.070 > 0.05. Therefore, the data is normally distributed.
Homogeneity Test
To determine if the data is homogeneously distributed, the researcher used SPSS. The results of the homogeneity test can be seen in the table below.

**Table 3. Test of Homogeneity of Variances**

<table>
<thead>
<tr>
<th>Musical Intelligence</th>
<th>Levene Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.180</td>
<td>3</td>
<td>16</td>
<td>.908</td>
</tr>
</tbody>
</table>

Based on the results of the normality and homogeneity tests, it is evident that the data used is homogeneously distributed. The significant result obtained was 0.908, which means 0.908 > 0.05, indicating that the data is homogeneous.

Hypothesis Test
After conducting the normality and homogeneity tests, the next step is to perform a t-test or hypothesis test. In this case, a t-test analysis is used, and the t-value is calculated based on the prepared table. Before performing the t-test, the first step is to create a calculation table to obtain the t-value, as shown in the table below:

**Table 4. Testing the Validity of the Alternative Hypothesis (Ha)**

<table>
<thead>
<tr>
<th>NO</th>
<th>KODE</th>
<th>ANAK</th>
<th>PRETEST</th>
<th>POSTTEST</th>
<th>D</th>
<th>D*</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>AFR</td>
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<td>9</td>
<td>21</td>
<td>12</td>
<td>144</td>
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<td>2</td>
<td>AZH</td>
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<td>3</td>
<td>AKZ</td>
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<td>6</td>
<td>NHZ</td>
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</table>
The next step is to interpret the t-value. First, the degrees of freedom (df) are calculated using the formula df = N - 1, where N is the sample size. This results in df = 21 - 1 = 20. The calculated t-value (t₀) is 39.28. This is then compared with the critical t-value (tₜ) at a 5% significance level, which is 2.08. The comparison shows that t₀ is greater than tₜ, specifically 39.28 > 2.08. Consequently, since the calculated t-value (t₀) exceeds the critical t-value (tₜ), the null hypothesis (h₀) is rejected, and the alternative hypothesis (h₁) is accepted. This indicates that playing traditional musical instruments significantly influences children's musical intelligence. In summary, engaging children in playing the traditional musical instrument talempong pacik can effectively improve their musical intelligence.

Discussion

Based on the research findings, before treatment, the average score of children's musical intelligence was 8.4. After receiving treatment, the musical intelligence score increased to 21, showing an improvement of 12.6 points. This demonstrates a significant enhancement in the musical intelligence of 5-6-year-old children at TK IT Qurrata A’yun Malana Batusangkar due to the influence of playing the traditional musical instrument talempong pacik. Traditional musical instruments originate from specific cultural traditions, and their continuity in today's context represents efforts to preserve cultural heritage from one generation to the next, ensuring its transmission from past communities to future generations (Solihin et al., 2022). In Minangkabau culture, musical instruments are classified according to their purpose and function. The classification of Minangkabau musical instruments aims to categorize them into classes based on their types for easy identification, including instruments like the talempong pacik. (D. N. Sari & Desriyeni, 2019).

Playing the talempong pacik musical instrument is enjoyable for children and brings them happiness. Additionally, it enhances children's musical intelligence because researchers guide them through various stages of playing the talempong pacik, ensuring they do not face difficulties. Children also learn to be confident in playing musical instruments and have opportunities to perform percussion instruments in front of their peers, thereby improving their musical intelligence.

Musical intelligence is crucial for children's development as it offers numerous benefits in their lives. One such benefit is its role in fostering various aspects and abilities in children. Music helps shape brain function and development, enhances mental and physical coordination, improves memory, develops language skills, fosters creativity, and enhances social skills and child health. Developing musical intelligence through playing musical instruments can be instrumental in these aspects (Yeni, 2015).

To implement traditional musical instrument play in an institution or school to develop children's musical intelligence, it is beneficial to provide learning resources and
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traditional musical instruments. These resources can enhance children's artistic activities and experiences. Therefore, engaging in activities like playing the traditional talempong pacik has a significant impact on children's musical intelligence, as evidenced by statistically calculated posttest results.

CONCLUSION

Based on the research and analysis conducted on the influence of percussion instrument games on the musical intelligence of 5-6-year-old children at TK IT Qurrata A’yun Malana Batusangkar, which involved six sessions (one pretest, four treatments, and one posttest) and compared the average scores before and after playing the talempong pacik musical instrument, it can be concluded that since \( t_o > t_{t} \) (39.28 > 2.08), the null hypothesis (\( h_0 \)) is rejected and the alternative hypothesis (\( h_a \)) is accepted, indicating that playing traditional musical instruments significantly impacts children's musical intelligence.

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