

The Effect of Playing Kalimba Musical Instrument on the Concentration of Attention Deficit Hyperactivity Disorder Children

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ABSTRACT

This study examines the effect of playing kalimba musical instruments on the concentration of children with attention deficit hyperactivity disorder conducted from 29 April to 28 May 2024. Based on the results of observations made before the study, there were children having difficulty focusing their attention, talking constantly in a high voice, actively walking around inside and outside the room, easily influenced by the things around them and from the results of the child's assessment indicated attention deficit hyperactivity disorder at SLB Damayanti. This study aims to determine the effect of playing musical instruments on the concentration of children with attention deficit hyperactivity disorder. This research uses a quantitative approach, namely experimental research with a single-subject research (SSR) design. The research design in this study is an A-B design, namely, A as the baseline phase and B as the intervention phase. Data collection used is observation and documentation. Data analysis in this study used descriptive statistics with visual analysis components in conditions and analysis between conditions. The results of the data analysis showed that the average duration of the baseline phase was 5.603 minutes, and the intervention phase was 7.2975 minutes. Based on the results that show an increase in the baseline and intervention phases, it can be concluded that playing kalimba musical instruments affects the concentration of children with attention deficit hyperactivity disorder.

Keywords: Kalimba Playing, Concentration Duration, Attention Deficit Hyperactivity Disorder

INTRODUCTION

Attention Deficit Hyperactivity Disorder is a disorder of concentration and hyperactivity. Attention Deficit Hyperactivity Disorder is referred to as a child with special needs because the weakness is due to the inability to use organized cognitive strategies that make it difficult to focus and maintain attention (Puspita et al., 2016). Attention Deficit Hyperactivity Disorder has difficulty in focusing attention (inattention), impatience (impulsivity) both physically and verbally, and high hyperactivity (Hayati et al., 2019). Inattention refers to difficulty in focusing attention and appearing indifferent and unruly. Impulsivity refers to actions that are hasty, difficult to wait for their turn, and continuously pursue something that harms themselves. Hyperactivity refers to excessive motor activity, difficulty controlling, and always being active as if not feeling tired. Based on this understanding, attention deficit hyperactivity disorder children have behavioral disorders in the form of inattentiveness, impulsivity, and hyperactivity. The disorders that attention

deficit hyperactivity disorder children have make it difficult for them to concentrate in carrying out activities, including participating in school activities.

Concentration is focusing the mind on situations and conditions in learning. Concentration creates understanding and impressions so that the knowledge gained is not quickly forgotten. Concentration draws attention to an object being studied (Idrus, 2018). The concentration of student learning is influenced by the ability of each student's brain to focus on what they are learning. This concentration of attention is intended to improve students' ability to understand the information obtained. Impaired concentration of attention is one of the characteristics of attention deficit hyperactivity disorder children, causing various problems in learning activities in the classroom.

Observations made by the author at SLB Damayanti showed that attention deficit hyperactivity disorder students who were at SLB Damayanti experienced problems in their learning. Students find it difficult to focus their attention, talk non-stop with a high voice, actively like to walk around inside and outside the room, rebel if it is not by their wishes, are easily influenced by the things around them, and often also disturb other friends in learning. Interventions that teachers have carried out have yet to be optimal in improving the concentration of these students, so it is necessary to have a learning program that can optimally overcome the concentration problems of attention deficit hyperactivity disorder students, for example, by playing musical instruments.

Playing musical instruments is an activity a person does to express his expression. Playing musical instruments indirectly becomes entertainment for children with attention deficit hyperactivity disorder; music can affect aspects of human activity, emotions, habits, and behavior, which can also affect cognitive abilities (Hairunnas, 2023). Lack of concentration in children with attention deficit hyperactivity disorder is a significant problem for researchers. Efforts to improve children's concentration with attention deficit hyperactivity disorder using kalimba musical instruments. This study was conducted to determine the effect of playing kalimba musical instruments on the concentration of children with attention deficit hyperactivity disorder.

METHOD

This study uses a quantitative approach, and the type of research used is experimental research with a single-subject research design, namely Single Subject Research (SSR). Single Subject Research (SSR) is an experimental research method to see and evaluate a particular intervention on the behavior of a single subject by conducting repeated assessments over time (Ari, 2021). Data collection uses observation and documentation. The type of observation used in this study is participant observation, where the baseline phase and intervention phase are carried out by measuring the duration of concentration using a stopwatch (Sugiyono, 2015). Researchers collect information in the form of data and archives of child development through report cards and documentation of activities. Researchers use descriptive statistics as a data analysis that is validated in the form of a clear picture of the condition of the data taken.

RESULT AND DISCUSSION

Children with attention deficit hyperactivity disorder have problems with inattention, especially at school age. This causes children to have difficulty focusing their attention, tend to get bored quickly, have difficulty doing their tasks and activities, often lose items

such as (stationery pencils, books, and toys) and their attention is easily distracted by external stimuli and in the long term can affect the ability of academic achievement which decreases (Colomer et al., 2017).

The characteristics of the research subject that appeared during the observation were that he was easily distracted, could not be silent, was challenging to instruct, spoke in a high tone, and disturbed his friends. Researchers conducted three meetings in the baseline phase to measure the concentration duration of attention deficit hyperactivity disorder children. After observing, the researchers provided treatment by playing kalimba musical instruments in the intervention phase for four meetings.

The data obtained show that playing kalimba musical instruments can improve the concentration of children with attention deficit hyperactivity disorder. The observations in the baseline phase show stable data calculated from the child's learning activities. In the intervention phase, the data obtained increased from the beginning to the end of the meeting.

Table 1. Baseline Phase Results

Date	Meeting	Time		Duration
		Start	Finish	
29 April 2024	1	08:03:18	08:08:41	00:05:23
6 May 2024	2	08:15:22	08:21:09	00:05:47
8 May 2024	3	08:21:07	08:26:18	00:06:11

Based on the table above, the results of the baseline phase attention deficit hyperactivity disorder student concentration calculation data conducted when students carry out learning show that the fastest concentration duration is 5 minutes 23 seconds on 29 April 2024, the most extended duration of student concentration is 6 minutes 11 seconds on 8 May 2024.

Table 2. Pre-test Score

Date	Meeting	Time		Duration
		Start	Finish	
20 May 2024	1	08:17:05	08:23:52	00:06:47
22 May 2024	2	08:31:26	08:38:38	00:07:12
27 May 2024	3	08:12:37	08:20:26	00:07:49
28 May 2024	4	08:25:19	08:33:30	00:08:11

Based on the table above, the results of the calculation data on the concentration of attention deficit hyperactivity disorder students in the intervention phase, namely the fastest duration of 6 minutes 47 seconds, was obtained at the first meeting on 20 May 2024. The longest duration was 8 minutes 11 seconds at the fourth meeting on 28 May 2024.

Table 3. Results of Visual Analysis in Condition

Condition	Baseline	Intervention
Condition Length	3 (+)	4 (+)
Estimated Directional Tendency		
Stability Trend	100% Stabilised (+)	100% Stabilised (+)
Data Trace		
Rate of Change	5,23 – 6,11 = 0,88 (+)	6,47 – 8,11 = 1,64 (+)
Range	5,23-6,11	6,47-8,11

Table 4. Results of Visual Analysis between Conditions

Condition Comparison	B/A
Changed variable	1 (+) (+)
Changes in directional tendency	
Change in stability tendency	Stable to Stable
Change in level	6,47 – 6,11 = 0,36 (+)
Overlap percentage	$\frac{1 \times 100\%}{4} = 25\%$

CONCLUSION

The research that has been conducted can conclude that the activity of playing kalimba musical instruments affects the concentration of children with attention deficit hyperactivity disorder. The average data analysis in the baseline phase was 5.603 minutes, and the average data analysis in the intervention phase was 7.2975 minutes.

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