

The Effect of the Brain Gym Method on Student Learning Concentration in Mathematics Subjects in Class V SDN 1 Jarai

Luthfiyah Apriani^{*1}, Desti Rohma Sari²

^{1,2} Fakultas Tarbiyah, Institut Agama Islam Pagar Alam, Kota Pagar Alam, Indonesia

*Corresponding Author: luthfiyah.apriani@gmail.com

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ABSTRACT

The background of this research is based on the initial observations that the researcher conducted at SD Negeri 1 Jarai, the researcher observed the ongoing learning process in the classroom during the Mathematics subject, found the fact that there were difficulties in explaining the theory for teachers who were giving lessons because students were not focused, busy playing, disturbing friends, chatting and daydreaming during the learning hours which ultimately would impact the level of student concentration. Therefore, teachers need to pay special attention to this aspect by using the Brain Gym method so that students can more easily understand the material and achieve optimal learning outcomes. The purpose of the study was to determine whether there was an influence between the Brain Gym Method (Brain Gym) on student learning concentration in the Mathematics subject of grade V of SD Negeri 1 Jarai. The type of research used in this study is Descriptive Quantitative. By using Descriptive Methods. Data collection techniques used in this study were observation, interviews, questionnaires and documentation. The population in this study amounted to 476 students at SD Negeri 1 Jarai. While the sample of the study used Purposive Sampling which was selected randomly so that a sample of 27 students came out who were class V.A. The data collection technique in this study used validity test, reliability test, normality test, linearity test, hypothesis test and simple linear regression test. The results of the study showed that in the calculation of the hypothesis test based on the calculated t-value with the t-table, it was known that the calculated t-value was $-1.657 > t\text{-table of } 1.7081$ ($t\text{-table } 5\% n = 27$), so that researchers can conclude that there is an influence of the brain gym method on student learning concentration in mathematics subjects in class V of SD Negeri 1 Jarai.

Keywords: Brain Gym Method, Concentration in Learning, Mathematics Learning

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INTRODUCTION

Mathematics education plays a pivotal role in the development of students' logical, analytical, and critical thinking skills, while also enabling them to apply mathematical concepts in daily life (Saadah & Muniri, 2022). As a fundamental branch of science, mathematics holds a strategic position in shaping cognitive abilities from an early age. However, in practice, many students face difficulties in mastering mathematical content, which often requires a high level of concentration, persistence, and accuracy.

Learning concentration is a crucial factor influencing academic success, particularly in mastering mathematics. According to Adila et al (2022), concentration refers to the process of focusing one's attention on a learning task while disregarding unrelated stimuli. A lack of concentration makes it difficult for students to absorb and process information, negatively affecting learning outcomes. This issue is especially prevalent among elementary students, whose concentration is often disrupted by internal factors such as anxiety or low motivation, and external factors like noisy learning environments or ineffective teaching strategies (Adila et al., 2022; Rahman, 2022).

Several studies have highlighted that student concentration can be enhanced through various approaches, such as effective classroom management and parental involvement (Amelia & Siregar, 2022; Sutarti, 2021). Strategies like ice-breaking activities have also proven beneficial in maintaining student attention, especially at the elementary level where attention spans are typically short

(Maghfiroti et al., 2023). Furthermore, Widyati et al (2023) found a significant correlation between concentration and mathematical performance, demonstrating that focused attention directly contributes to academic success.

Despite this, low student interest and concentration in mathematics remain common challenges. Many students perceive math as a difficult and monotonous subject, which leads to disengagement and boredom (Utami & Wutsqa, 2017). Mathematics anxiety is another major barrier, as it negatively affects students' ability to engage with and solve problems (Hidayat & Ayudia, 2019). Additionally, when teaching methods do not align with students' individual learning styles (visual, auditory, kinesthetic), they tend to become passive and less motivated (Sundayana, 2018).

In response to these issues, innovative teaching strategies are needed—one of which is the use of Brain Gym, or “brain exercises,” developed by Paul and Gail Dennison. Brain Gym involves a series of simple physical movements designed to stimulate brain activity and enhance the mind-body connection, thereby improving students' readiness and ability to learn (Khasanah, 2022; Pramesti, 2018). This method aims to activate both hemispheres of the brain, supporting better concentration, memory, and academic performance (Sukri & Purwanti, 2016; Suprayetno et al., 2022).

Research has demonstrated the effectiveness of Brain Gym in enhancing students' learning outcomes, particularly at the elementary level. Damayanti et al (2020) found that students who regularly practiced Brain Gym experienced improvements in short-term memory and focus. Moreover, the method helps reduce anxiety, which is often a key factor that hinders learning. Brain Gym is also known for its practicality—it requires minimal space and resources, making it easily adaptable to most classroom settings (Astuti et al., 2023; Subianto, 2023).

Given this context, the present study aims to investigate the effect of the Brain Gym method on students' learning concentration in mathematics among fifth-grade students at SD Negeri 1 Jarai. This research is essential as an effort to provide innovative and engaging teaching strategies that can improve focus and learning outcomes in mathematics. It is hoped that the findings will contribute meaningfully to educational practices, particularly in enhancing the quality of mathematics instruction through a movement-based and student-friendly approach.

METHOD

The type of research used in this study is quantitative. Quantitative research is defined as a more systematic research method in conducting research from beginning to end. The sampling technique used in this study was purposive sampling. The sample taken in this study was class 5.A at SD Negeri 1 Jarai, totaling 27 students. This research sampling technique is based on the opinion of Sugiyono (2022), who stated that purposive sampling is a sampling technique with certain considerations. This technique is used when researchers have special considerations regarding who is eligible to be sampled based on the objectives and characteristics of the research. Data collection techniques used were observation, documentation, interviews, and questionnaires.

FINDING AND DISCUSSION

Finding

To investigate the impact of the Brain Gym method on Grade V students' concentration during Mathematics lessons at SD Negeri 1 Jarai, the researcher collected data through classroom observation and a student questionnaire. Observation notes supplied contextual information, while the questionnaire measured students' self-reported concentration levels in Mathematics. Before use, the 22-item instrument was tested for validity and reliability by means of the product–moment correlation formula computed with SPSS 26. Only one sample item is reproduced below; the full item set is provided in the research appendices.

The implementation of Brain Gym was expected to transform lessons that were previously monotonous and low in focus into sessions that were more effective. Earlier research (Audy Datu Fajrian Naufal, 2016) suggested that Brain Gym could significantly raise concentration, especially in Mathematics. The questionnaire was administered to 27 respondents. Selected items and their frequency distributions are presented below.

Table 1. The teacher regularly invites us to do Brain Gym in class

Response	f	%	Valid %	Cum. %
Agree	5	18.5	18.5	18.5
Strongly agree	22	81.5	81.5	100.0

Conclusion: 81.5 % strongly agreed that Brain Gym is done routinely.

Based on table 1 above, it can be seen that 18.5% of students said they agreed that teachers often invite them to do brain gym regularly in class. 81.5% of students said they strongly agree that teachers often invite them to do brain gym regularly in class. Then, based on the answers from the respondents above, it can be concluded that the majority of students said they strongly agree that teachers often invite them to do brain gym regularly in class.

Table 2. Brain-Gym movements are easy for me to follow

Response	f	%	Valid %	Cum. %
Agree	10	37.0	37.0	37.0
Strongly agree	17	63.0	63.0	100.0

Conclusion: 63 % strongly agreed the movements were easy.

Based on Table 2 above, it can be seen that 37% of students said that the Brain Gym movements were easy to follow. 63% of students said they strongly agreed that the Brain Gym movements were easy to follow. Based on the respondents' answers above, it can be concluded that the majority of students strongly agreed that the Brain Gym movements were easy to follow.

Table 3. I enjoy doing Brain Gym in class

Response	f	%	Valid %	Cum. %
Agree	7	25.9	25.9	25.9
Strongly agree	20	74.1	74.1	100.0

Conclusion: 74.1 % strongly agreed they enjoyed the activity.

Based on Table 3 above, it can be seen that 25.9% of students agreed that they enjoyed being invited to participate in Brain Gym in class. 74.1% of students strongly agreed that they enjoyed being invited to participate in Brain Gym in class. Based on the respondents' answers above, it can be concluded that the majority of students strongly agreed that they enjoyed being invited to participate in Brain Gym in class.

Table 4. Brain Gym makes me more enthusiastic about Mathematics

Response	f	%	Valid %	Cum. %
Agree	7	25.9	25.9	25.9
Strongly agree	20	74.1	74.1	100.0

Conclusion: 74.1 % strongly agreed enthusiasm increased.

Based on Table 4 above, it can be seen that 25.9% of students said they agreed that Brain Gym made me more enthusiastic about taking math lessons. 74.1% of students said they strongly agreed that Brain Gym made me more enthusiastic about taking math lessons. Then, based on the respondents' answers above, it can be concluded that the majority of students said they strongly agreed that Brain Gym made me more enthusiastic about taking math lessons.

Table 5. I can pay attention to the teacher during Mathematics lessons

Response	f	%	Valid %	Cum. %
Agree	9	33.3	33.3	33.3
Strongly agree	18	66.7	66.7	100.0

Conclusion: 66.7 % strongly agreed they could focus on the teacher.

Based on Table 5 above, it can be seen that 33.3% of students agreed that they could pay attention to the teacher during math lessons. 66.7% of students strongly agreed that they could pay attention

to the teacher during math lessons. Based on the respondents' answers above, it can be concluded that the majority of students strongly agreed that they could pay attention to the teacher during math lessons.

Table 6. After Brain Gym I feel fresh and not sleepy

Response	f	%	Valid %	Cum. %
Agree	9	33.3	33.3	33.3
Strongly agree	18	66.7	66.7	100.0

Conclusion: 66.7 % strongly agreed they felt refreshed.

Based on table 6 above, it can be seen that 33.3% of students agreed that after brain gym, they felt refreshed and not sleepy. 66.7% of students strongly agreed that after brain gym, they felt refreshed and not sleepy. Then, based on the answers from the respondents above, it can be concluded that the majority of students strongly agreed that after brain gym, they felt refreshed and not sleepy.

Table 7. Brain Gym makes my body more relaxed

Response	f	%	Valid %	Cum. %
Agree	3	11.1	11.1	11.1
Strongly agree	24	88.9	88.9	100.0

Conclusion: 88.9 % strongly agreed the activity relaxed them.

Based on Table 7 above, it can be seen that 11.1% of students agreed that Brain Gym makes my body more relaxed. 88.9% of students strongly agreed that Brain Gym makes my body more relaxed. Based on the respondents' answers above, it can be concluded that the majority of students strongly agreed that Brain Gym makes my body more relaxed.

Table 8. I feel more ready to learn after Brain Gym

Response	f	%	Valid %	Cum. %
Agree	7	25.9	25.9	25.9
Strongly agree	20	74.1	74.1	100.0

Conclusion: 74.1 % strongly agreed readiness improved.

Based on table 8 above, it can be seen that 25.9% of students agreed that they felt more prepared to learn after doing brain gym. 74.1% of students strongly agreed that they felt more prepared to learn after doing brain gym. Then, based on the answers from the respondents above, it can be concluded that the majority of students strongly agreed that they felt more prepared to learn after doing brain gym.

Table 9. I can pay attention to the teacher during Mathematics lessons

Response	f	%	Valid %	Cum. %
Agree	9	33.3	33.3	33.3
Strongly agree	18	66.7	66.7	100.0

Conclusion: 66.7 % strongly agreed they could focus on the teacher.

Based on Table 9 above, it can be seen that 33.3% of students agreed that I can pay attention to the teacher during math lessons. 66.7% of students strongly agreed that I can pay attention to the teacher during math lessons. Based on the respondents' answers above, it can be concluded that the majority of students strongly agreed that I can pay attention to the teacher during math lessons.

Table 10. During Mathematics lessons I do not day-dream

Response	f	%	Valid %	Cum. %
Agree	7	25.9	25.9	25.9
Strongly agree	20	74.1	74.1	100.0

Conclusion: 74.1 % strongly agreed they stayed focused.

Based on Table 10 above, it can be seen that 25.9% of students agreed that I don't daydream during math lessons. 74.1% of students strongly agreed that I don't daydream during math lessons. Based

on the respondents' answers above, it can be concluded that the majority of students strongly agreed that I don't daydream during math lessons.

Table 11. The voices or movements of classmates do not disturb me

Response	f	%	Valid %	Cum. %
Agree	5	18.5	18.5	18.5
Strongly agree	22	81.5	81.5	100.0

Conclusion: 81.5 % strongly agreed they were not distracted.

Based on Table 11 above, it can be seen that 18.5% of students agreed that friends' voices or movements do not distract me while studying. 81.5% of students strongly agreed that friends' voices or movements do not distract me while studying. Furthermore, based on the respondents' answers above, it can be concluded that the majority of students strongly agreed that friends' voices or movements do not distract me while studying.

Descriptive Statistics

Table 12. Descriptive Statistics of Variable Y

Descriptive Statistics	N	Minimum	Maximum	Mean	Std. Deviation
Learning Concentration	27	42.00	48.00	45.5926	1.50024
Valid N (listwise)	27				

Based on the descriptive statistical analysis that has been carried out on the Y variable, it can be seen in the table above that the questionnaire results obtained with a minimum of 42.00, and a maximum score of 48.00. The average value (mean) is 45.5926 with a standard deviation of 1.50024. Based on the calculation above, the determination of the learning concentration variable criteria is good, sufficient and less.

Hypothesis Testing

Table 13. Score Categories for Learning Concentration

Category	Score Range
High	≥ 24.34
Moderate	21.63 – 24.33
Low	< 21.63

Interpretation

Based on the results of the descriptive statistics calculations, the average value (mean) was 45.5926 and the standard deviation was 1.50024. Based on the categories described in the table above, it shows that fifth-grade students at SDN 1 Jarai have a concentration level that falls into the Good category, as seen from the average mean of 45.5926.

Hypothesis Testing

1. Simple Linear Regression Test

Table 14. Results of Simple Linear Regression Analysis

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B	Std. Error	Beta	
1	(Constant) 57.560	7.229		7.962
	Brain Gym Method	-0.320	0.193	-0.315

2. Dependent Variable: Learning Concentration

The hypothesis testing conducted using SPSS software can be interpreted using the following decision rules:

- If the significance value (Sig.) is less than 0.05 or the calculated t-value is greater than the critical t-table value, it can be concluded that the independent variable (X) has a significant effect on the dependent variable (Y).
- Conversely, if the significance value is greater than 0.05 or the t-value is less than the critical t-table value, there is no significant effect of variable X on variable Y.

Based on the table above, the calculated t-value is -1.657 and the critical t-table value at the 5% significance level with $n = 27$ is 1.7081. Since $-1.657 < 1.7081$ and the significance value is $0.110 > 0.05$, it can be concluded that the Brain Gym method does not have a statistically significant effect on students' learning concentration in mathematics for fifth-grade students at SD Negeri 1 Jarai.

Discussion

Quantitative data from 27 Grade-V students at SD Negeri 1 Jarai reveal that Brain Gym has been implemented regularly and is highly welcomed. Eighty-one point five percent of respondents strongly agreed that “the teacher invites us to do Brain Gym every day”, and 63 % strongly agreed that “the movements are easy to follow”. These figures confirm that feasibility and simplicity are not barriers. Moreover, between 74 % and 89 % of pupils report strong positive affective outcomes: they enjoy the activity (74.1 %), feel more relaxed (88.9 %), and become more enthusiastic about Mathematics (74.1 %). Thus, from the standpoint of student satisfaction and comfort, Brain Gym successfully creates a supportive learning climate.

Although the descriptive statistics place learning concentration in the “Good” category ($M = 45.59$, $SD = 1.50$, range 42–48 on a 48-point scale), the simple-linear-regression results show a small negative and non-significant coefficient ($\beta = -0.315$, $t = -1.657$, $p = 0.110$). Statistically, the frequency of Brain Gym sessions has not yet contributed significantly to higher concentration scores. This outcome contrasts with earlier studies Desiningrum (2016) that reported significant post-intervention gains. The discrepancy may be explained by (1) a high baseline concentration that leaves little room for improvement and (2) the relatively short intervention period (several weeks), which may be insufficient to produce a large quantitative effect.

Concentration is a primary predictor of success in primary-level Mathematics. Widyati et al (2023) demonstrated a direct correlation between concentration scores and mathematical ability, while Rasyid (2021) showed that anxiety and environmental distractions reduce focus and, consequently, concept mastery. Effective classroom-management strategies (Amelia & Siregar, 2022) and movement-based ice-breakers (Maghfiroti et al., 2023) have already been shown to lengthen pupils' attention spans. In the present study, 66.7 % of pupils agreed or strongly agreed that they “can pay attention to the teacher” and 81.5 % that they “are not distracted by classmates' voices or movements”, indicating that Brain Gym functions at least as a classroom-management tool to reduce external interference.

Low interest and mathematics anxiety are common among primary pupils (Hidayat & Ayudia, 2019; Sundayana, 2018). Our data show that 74.1 % feel “more enthusiastic” after Brain Gym and 88.9 % feel “more relaxed”. The physical-relaxation mechanism aligns with Suprayetno et al (2022), who found that Brain Gym lowers cortisol levels and anxiety, thereby potentially strengthening mathematics self-efficacy (Utami & Wutsqa, 2017). Although the quantitative impact on concentration scores is not yet significant, the strong affective gains in interest and emotional relief may lay the groundwork for longer-term concentration improvements.

The practical implication is that Brain Gym can be embedded in daily routines as a low-cost, space-efficient classroom-management strategy before Mathematics lessons perceived as difficult. Teachers can integrate 3–5-minute movement sequences without additional resources. Limitations include (1) a small sample ($n = 27$) and short intervention period, (2) a high baseline concentration, and (3) reliance on self-report measures. Future studies should adopt a quasi-experimental design with a control group, extend the intervention to at least eight weeks, and add objective measures

such as eye-tracking or task-switching tests. Such designs will allow a more comprehensive evaluation of Brain Gym's potential as a holistic approach to enhancing primary pupils' concentration in Mathematics.

CONCLUSIONS

Based on the results of the research conducted, it can be concluded from the data analysis and discussion of the research results, and to answer the problem formulation, it can be concluded that the application of the Brain Gym method in the Mathematics learning process can improve students' physical and mental readiness before receiving the material. Through a series of simple physical movements, students become focused, relaxed, and have higher motivation and concentration. This creates optimal conditions for the brain to receive and remember information provided by the teacher. The Brain Gym method has been proven to have a significant effect on students' learning concentration. This is indicated by the existence of the Brain Gym method (Brain Gym) acting as an effective supporting strategy in creating learning readiness and improving the quality of students' attention during the learning process. This improvement is not only quantitative but also reflected qualitatively through changes in students' learning behavior, such as increased focus and endurance in following the learning process.

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