GUIDENA: Jurnal Ilmu Pendidikan, Psikologi, Bimbingan dan Konseling
ISSN: 2088-9623 (Print) - ISSN: 2442-7802 (Online)
2020, Vol 10, No 2, 144-150
doi: https://doi.org/10.24127/gdn.v10i2.3151

Research Article

First Grader's Attention Span During In-Class Activity

Mutiara Tioni Asprilia[1], Laila Qodariah[1], Fredrick Dermawan Purba[1]

[1] Developmental Psychology Department, Universitas Padjadjaran, Indonesia

Abstract

Learning is closely related to one's ability to give focus and attention to instructional activities. The ability to maintain attention for a period of time is especially critical between 6 and 7 years. At this age, children's attentional abilities are not fully developed. This study aimed to gain knowledge of actual behavior related to the attention span of first graders in elementary school during classroom activities. The data was obtained by observing one grade 1 elementary school in its natural setting with the time sampling method. Observations are based on the 'on-task and 'off-task behavior shown by the students. What found that the longest time elementary school grade 1 students were able to show 'on-task behavior indicating their attention span was 7 minutes. These results indicate a gap with the expected attention span of grade 1 elementary school children, which is about 18 minutes.

Keywords: attention span; class activity; first grade

Abstrak

Belajar dekat kaitannya dengan kemampuan seseorang untuk memberikan fokus dan atensi terhadap aktivitas instruksional. Kemampuan untuk mempertahankan atensi untuk rentang waktu tertentu khususnya kritis pada usia 6 hingga 7 tahun. Pada usia ini, kemampuan atensional anak belum sepenuhnya berkembang. Tujuan dari penelitian ini adalah untuk memperoleh pengetahuan akan perilaku sesungguhnya terkait rentang atensi anak kelas satu sekolah dasar selama aktivitas di kelas. Data diperoleh dengan mengobservasi satu kelas tingkat 1 sekolah dasar dalam setting naturalnya dengan metode *time sampling.* Observasi didasari pada perilaku '*on-task'* dan '*off-task'* yang ditunjukkan oleh murid. Ditemukan bahwa waktu terpanjang murid kelas 1 sekolah dasar mampu menunjukkan perilaku '*on-task'*—yang mengindikasikan rentang atensi mereka—adalah 7 menit. Hasil ini menunjukkan kesenjangan dengan rentang atensi anak kelas 1 sekolah dasar yang diharapkan, yaitu sekitar 18 menit.

Kata kunci: rentang atensi; aktivitas kelas; sekolah dasar

GUIDENA: Jurnal Ilmu Pendidikan, Psikologi, Bimbingan dan Konseling
Website : https://ojs.fkip.ummetro.ac.id/index.php/bk

Received: 2020-10-11 Published: 2020-12-30

*Corresponding Email: mutiara13006@mail.unpad.ac.id, laila.qodariah@unpad.ac.id, fredrick.purba@unpad.ac.id

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Introduction

Children go through a transition from kindergarten to elementary school. The expectations put on them regarding how they should behave in society, especially in class, are also different. Children in kindergarten are expected to follow class, but their class often is a mixture of playing and studying. In grade school, the class is more learning than playing and the information children need to process is way more taxing. School at this stage, expect them to be able to stay seated for a longer period and put more attention to the lecture. Behaviors that are drifting away from the given task are called classroom misbehavior and they are no longer tolerated for doing so.

Attention is vital in learning. Difficulties in attention and memory has been associated with academic difficulties, behavior problems, and poor social functioning (DuPaul, McGoey, Eckert, & VanBrakle, 2001). With the expectation to sustain attention during class for a certain period of time at their age, first graders are not yet equipped with a mature ability. While on the other hand, research has shown that first grade is a critical moment to attain basic scholastic abilities such as reading which could affect academic achievement in the long run (Rabiner, Carrig, & Dodge, 2016). In this research, we would like to see the actual performance of first graders' attentional ability through their attention span during in-class activity. This information could be useful for teachers or parents in supporting students' learning and be used to adjust their instructional method toward first graders.

Attention is a cognitive ability to produce, direct, and sustain a suitable alert state to process information accordingly (Especialistas en estimulación cognitive, 2017). Attention is characterized by a limited capacity to process information and this allocation of capacity can be controlled (Styles, 2006). One's attentional ability is very important in responding to stimuli met in everyday life.

People develop their attentional ability since infancy. Even so, the early attentional ability is not fully developed and this ability is only used for exploring their environment (Johnson, Posner, & Rothbart, 1991). In the first 3 years of life, one develops an attention system (Ruff & Rothbart, 2010), and from 6 years of age people develop the ability to be alert and sustain attention. Children of age 6 and 7 are expected to have an attention span of longer than 15 minutes (Schaefer & Millman, 1981). This more simple function of attention shows early emergence approximately in kindergarten developmental period and starts to stabilize at about 10 years of age (Tremolada, Taverna, & Bonichini, 2019). This shows the importance of the development of simple attentional function in the critical period because after it is fully matured, the ability will be relatively stable.

The study itself aims to obtain data and provide insights on the actual performance of first graders showing attention span. The results are hoped to shine a light on the assumptions of poor concentrating ability associated with children of technology (Bhat, 2017). From the observation, we found that first graders' attention span fell below the expectation of their age.

Method

Participant

The study was conducted in one private educational institution in Bandung, Indonesia. The primary school manages one class for each grade. The first grade is a mixed-gender class consisting of 34 students with age range of 6 to 7 year old. After going through the process of obtaining consent from school authority to do an observation inside the class during classroom activity, all first grade students participated in data collection. No participants drop out during the process.

Procedure

Structured observation using the time-sampling method was conducted in the natural setting of participants. Observation was held for one-hour period during art class where students were given task to color a pre-printed picture. The one-hour session was broken down into four quarters, and further broken down into a five-minute time interval to check for *'on-task'* and *'off-task'* behavior shown by students during the in-class activity. Behavior listed as '*on-task'* includes eye contact and working on task as instructed while the behavior listed as *'off-task'* includes talking out of task, getting out of seat, noncompliance, and playing with objects not related to task given (Rhode, Jenson, & Reavis, 2010). This observation will provide data of the emergence of certain behavior listed as *'on-task'* or *'off-task'* that shows up during the time interval.

Data Analysis

Measurable data such as the frequency of '*on-task'* or '*off-task'* behavior during certain time interval will be tallied. Data in the form of observation notes will be analyzed qualitatively. Analyzing data using qualitative measure will not be as technical as quantitative method, but more dynamic, intuitive, and using the creative process of inductive reasoning, thinking and theorizing (Basit, 2003). Data in this study will be analyzed by exploring the experiences of the phenomenon under study to increase our understanding of it by comparing the results with theoretical expectation.

Validity and Reliability

It is important to ensure the validity and reliability of the observation conducted. An observation protocol is considered to have good validity when the instrument measures what it is intended to measure (Maxwell, 2012) and considered to have good reliability when it could be consistent across time or observers (Mitchell, 1979). To assess the validity, triangulation method is used. Validity of observation were checked by cross-checking them with other sources of data. If the conclusion matches with another data from other sources then confidence of its validity can be obtained. Time sampling is one method commonly used to look at attention span and especially in classroom setting, as used in Arrington (1943). The observation protocol in this study uses the common format of time sampling and provides the guidance definition of '*on-task'* and *'off-task'* behavior. The reliability of an observed behavior is also closely linked to the validity of the observation (DeMonbrun, Finelli, & Shekhar, 2015).

Scope and Limitation

By using a naturalistic observation, this study is able to have more ecological validity (McLeod, 2015). The study is linked closer to the relevant population and to the real-life context. This

observation in the natural setting serves like a case study and able to give us the opportunity to study the total situation of the phenomenon. Though it managed to capture the real situation, the study was conducted only in a small scale and therefore lacks representativeness of its population. Considering this limitation, this study is not generalizable to a wider population. Further study could deliberate over more study participants and/or additional measurement instruments to supplement the data obtained from observation.

Result and Discussion

The observation conducted during a one-hour in-class activity showed that the average time first graders could show '*on-task*' behavior fell in the range of 5 to 7 minutes. After at most 7 minutes, most first graders swift their attention to things unrelated to the task given, such as talking to friends. This attentional ability displayed by the students are considered very short, as 2-year-olds are already expected to have an attention span of approximately 7 minutes (Schaefer & Millman, 1981). Notes on observation are as shown in table 1.

Supporting literature stated that by 6 years old, one could have the approximate attention span of 15 minutes or more (Schaefer & Millman, 1981). In comparison to the expectation, the performance displayed by first graders under study fell extremely short. The fact that the result failed to fulfill the ideal performance for this age group, land us the question of what might underlie this gap. Even so, it is wise to put consideration on the different rate and speed every human has on development. The maturation of the attentional ability may vary from person to person. Especially for the age group of 6 to 7 year old, which maturation process of the ability to focus and sustain attention had just started (Tremolada et al., 2019).

Other factor to consider is the transition process from kindergarten education system to primary education system that they are currently going through. This goes hand in hand with the shift of expectations society put on them, especially on how to act in certain situation. Technical factors such as group size and teacher instructions might also affect behavioral engagement in first grade classes (Lan et al., 2009). Another factor that also plays an important role is a person's rhythmic pattern, which explains that the daily attention variations in children age 4 to 11 changes along with age. In the first grade (6-7 years of age), the peak in attention in the school morning occurs progressively later (Janvier & Testu, 2007). Then come the after-lunch slump where the attention becomes shorter, and attention increases again during the afternoon (Janvier & Testu, 2007). First graders are considered to have the regular pattern similar to those of older age, but some first graders still fall in the kindergarten group (5-6 years) pattern. This might explain the difference in varied maturation in first graders' attentional ability.

The interrelation of emotional competence and cognitive competence is central in understanding children's functioning at school entry (Blair, 2002). As an essential cognitive skill, attention could also underlie other problems such as behavioral problems or academic achievement (DuPaul et al., 2001) that more often show their emergence later. Similar findings showed the positive link between attention during kindergarten and future academic success (Rhoades, Warren, Domitrovich, & Greenberg, 2011). The understanding of attentional skill of students—especially those in the early stage of education—as a key mediator in facilitating academic success (Rhoades et al., 2011) is one essential concern not to be overlooked. Especially, supported by the result of this study that first graders attentional performance fell far below the expectation. In clinical implication, spotting early attentional problems could also help in identifying symptoms of *Attention Deficit Hyperactivity Disorder* (ADHD).

Table 1. In-Class Activity Time Sampling Observation Notes

Time Quarter	Hour (GMT+7)	Observation Notes
I	07.35	Under 5 minutes in after coloring activity started, students started to—one by one—had a chat with their chair mate.
II	07.55	A teacher came in to classroom and asked the students to work neatly. The students once again worked quietly and direct their focus on the assignment.
III	08.02	Most of the students started to talk to their friends and got out of their seat to walk around the class.
	08.10	The teacher came back to the class. The students went back to work quietly on their own.
	08.15	11 out of 34 students in the class stayed focus on their assignment. The rest of the students have completely abandoned their task.
IV	08.25	6 out of 34 students in the class still working on their assignment seriously. The rest have completed the task or have completely abandoned the task.

This study unfold the gap of ideal attentional ability in first graders to be completely far below expectation. However, this finding cannot be widely generalized because of the small size of sample that doesn't represent the overall population. The nature of naturalistic observation also supported no manipulation in the process therefore many other factors might play a role in affecting the result. Further research should be done with a greater sample size. It would also be helpful to add supplemental data from other attentional ability measurement instrument to get the all-round depiction of first graders attentional ability.

Conclusion

First graders' attention span have an average of 5 to 7 minutes, which falls far below from the ideal attention span for the age group at about 15 minutes. This finding is especially important in the education field for it gives an understanding of one essential cognitive function in first graders. Understanding of first graders' actual attentional performance could help teachers and other parties involved in educational setting to adjust the learning styles and put in special consideration on factors that could support optimum development in young children.

Funding

The authors have no funding to report.

Acknowledgments

We thank P Elementary School for allowing us to collect data in the classroom during school-hour.

About the Authors

Mutiara T. Asprilia has completed undergraduate degree in psychology. She is currently in her second year as a graduate student majoring in clinical child and adolescent psychology.

Laila Qodariah completed master degree in clinical psychology at Universitas Padjadjaran. She is a member and lecturer of the Developmental Psychology Departement at Universitas Padjadjaran. Research wise, she has published on positive family behavior, emotion development in children, and subjective wellbeing.

Fredrick D. Purba completed a PhD at the Erasmus University Medical Centre on quality of life and published several studies on quality of life in Indonesia. He is now a lecturer at Universitas Padjadjaran and the head of Developmental Psychology Department at Universitas Padjadjaran.

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