



The Effectiveness of The Token Economy in Improving Learning Concentration in Children with Autism Spectrum Disorder in Inclusive Schools: A Single-Subject Experiment

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ABSTRACT

This study was motivated by the low level of concentration among children with Autism Spectrum Disorder (ASD) in inclusive schools, as evidenced by their tendency to be easily distracted, difficulty maintaining focus, leaving their seats during lessons, and a low ability to consistently complete tasks. These conditions result in the subjects requiring intensive support throughout the learning process. This study aims to test the effectiveness of the token economy technique in improving the concentration of children with ASD in inclusive schools. The study uses an experimental approach with a Single Subject Experiment (SSE) using an A-B-A design, consisting of a first baseline phase (A1), an intervention phase (B), and a withdrawal or second baseline phase (A2). The research subject was a boy diagnosed with ASD and moderate intellectual disability. Data were collected through direct observation using a behavioral checklist that assessed focus maintenance, task completion, perseverance, and consistency during learning sessions. The intervention involved providing star-shaped tokens that could be exchanged for rewards based on the subject's preferences. The results showed an increase in learning concentration during the intervention phase compared to the baseline phase. The subject demonstrated improved ability to maintain focus, follow instructions, and complete tasks, as well as a reduction in distracting behaviors during learning. These findings indicate that the token economy technique is effective as a behavioral intervention to improve learning concentration in children with ASD in inclusive schools.

Keywords: Token Economy, Concentration, ASD, Intervention.

ABSTRACT

Penelitian ini dilatarbelakangi oleh rendahnya konsentrasi belajar pada anak dengan Autism Spectrum Disorder (ASD) di sekolah inklusi yang ditandai dengan perilaku mudah terdistraksi, kesulitan mempertahankan fokus, meninggalkan tempat duduk saat pembelajaran, serta rendahnya kemampuan menyelesaikan tugas secara konsisten. Kondisi tersebut menyebabkan subjek membutuhkan pendampingan intensif selama proses pembelajaran berlangsung. Penelitian ini bertujuan untuk menguji efektivitas teknik token economy dalam meningkatkan konsentrasi belajar anak dengan ASD di sekolah inklusi. Penelitian menggunakan pendekatan eksperimen dengan metode Single Subject Experiment (SSE) desain A-B-A yang terdiri atas fase *baseline* pertama (A1), fase intervensi (B), dan fase *withdrawal* atau *baseline* kedua (A2). Subjek penelitian merupakan seorang anak laki-laki dengan diagnosis ASD disertai intellectual disability sedang. Teknik pengumpulan data dilakukan melalui observasi langsung menggunakan lembar checklist perilaku berdasarkan aspek pertahanan fokus, penyelesaian tugas, ketekunan, dan keteraturan selama pembelajaran berlangsung. Intervensi diberikan melalui pemberian token berbentuk bintang yang dapat ditukarkan dengan reward sesuai preferensi subjek. Hasil penelitian menunjukkan adanya peningkatan konsentrasi belajar selama fase intervensi dibandingkan fase *baseline*. Subjek menunjukkan peningkatan kemampuan mempertahankan fokus, mengikuti instruksi, menyelesaikan tugas, serta penurunan perilaku distraksi selama pembelajaran. Temuan ini menunjukkan bahwa teknik token economy efektif digunakan sebagai intervensi perilaku untuk meningkatkan konsentrasi belajar anak dengan ASD di sekolah inklusi.

Kata Kunci: Token Ekonomi, Konsentrasi, ASD, Intervensi.

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Introduction

Children with Autism Spectrum Disorder (ASD) often have difficulty maintaining concentration during classroom learning. Concentration is a fundamental ability that allows individuals to focus their attention on relevant information while ignoring various stimuli unrelated to the task at hand. This ability plays a crucial role in supporting both academic success and social adjustment in the school environment. These challenges become even more complex in inclusive education settings because children with ASD learn alongside peers with diverse characteristics and are in an environment rich in visual, auditory, and social stimuli.

The characteristics of an inclusive classroom environment can increase the occurrence of distractions that hinder children with ASD's ability to sustain attention on learning tasks. Research by Banire et al. (2020) indicates that the presence of various stimuli in the classroom contributes to reduced academic performance in children with ASD, even though their eye-gaze patterns are not always different from those of typically developing children. These findings suggest that the challenges faced by children with ASD do not lie solely in the process of perceiving information but also in their ability to sustain attention consistently throughout learning activities. Consequently, basic academic skills such as reading, writing, and arithmetic become more difficult to master because these processes all require sustained focus.

Difficulties in sustaining attention are also closely linked to low academic achievement. Spaniol et al. (2021) reported that attention ability in children with ASD is significantly associated with academic achievement even after controlling for the influence of intellectual ability. These findings suggest that concentration problems are not merely a consequence of cognitive limitations but rather an independent factor influencing academic success. Therefore, improving concentration is a key intervention goal in supporting the learning process of children with ASD in inclusive schools.

One widely used approach to improve adaptive behavior in children with ASD is Applied Behavior Analysis (ABA). This approach focuses on shaping behavior through the manipulation of consequences so that desired behaviors occur more consistently. A meta-analysis conducted by Eckes et al. (2023) showed that comprehensive ABA interventions result in greater improvements in adaptive behavior compared to standard educational services. These findings indicate that ABA principles have the potential to support the learning skills needed by children with ASD in an inclusive educational setting.

A technique frequently used in ABA is the token economy. This technique employs tokens such as stars, stickers, or points as secondary reinforcers awarded whenever a child exhibits a target behavior, such as staying focused on a task or completing a learning activity. The accumulated tokens can then be exchanged for rewards or activities the child enjoys as primary reinforcers (Aulia et al., 2024). Through this mechanism, the connection between desired behavior and positive consequences becomes clearer, thereby increasing the child's motivation to repeat that behavior (Kim, 2025). The effectiveness of this technique has also been documented in a study by Lu and Tan (2024), which demonstrated that the token economy can reduce disruptive behaviors and tantrums among students with autism in both regular and special education schools.

The effectiveness of the token economy is based on the theory of operant conditioning proposed by B.F. Skinner. According to this theory, behaviors followed by pleasant consequences tend to increase in frequency, while behaviors that do not receive reinforcement will gradually decrease

(Dalal & Kusum, 2025). This principle has been supported by various studies showing that the token economy is effective in improving compliance, social skills, and academic behavior in children with special needs (Alqahtani, 2020; Hutabarat, 2025). Thus, this technique has a strong theoretical and empirical foundation as a behavior modification strategy in educational settings.

Research on the token economy is still largely dominated by studies focused on improving compliance, reducing maladaptive behaviors, or increasing learning engagement. A scoping review conducted by Tan et al. (2022) revealed that most studies categorize the token economy under the themes of behavior management and learning engagement, while studies specifically evaluating learning concentration as an intervention outcome remain limited. In fact, the ability to sustain attention is a critical prerequisite for the academic success of children with ASD. McDougal et al. (2020) also demonstrated that divided attention ability is associated with reading and math achievement, with children who have lower attention abilities tending to achieve lower academic outcomes. This research gap becomes increasingly relevant in the context of inclusive schools, given that dynamic learning environments require children with ASD to continuously adapt to group activities, social interactions, and concurrent changes in learning situations (Karagianni & Driga, 2024). Therefore, research on the effectiveness of the token economy in improving learning concentration among children with ASD in inclusive schools is still needed to enrich the empirical evidence and provide a foundation for the development of more targeted interventions.

Material and Method

This study employed a Single Subject Experiment (SSE) approach, an experimental method that can be applied to a very small number of participants even a single participant (Jannah, 2016). The SSE was chosen because the research subject had specific characteristics: a child diagnosed with Autism Spectrum Disorder accompanied by moderate intellectual disability and difficulty maintaining concentration during learning in an inclusive school setting. The study focused on providing a token economy intervention to improve the subject's concentration during learning.

The research design used was an A-B-A withdrawal design. This design consists of a first baseline phase (A1), an intervention phase (B), and a second baseline or withdrawal phase (A2) (Jannah, 2016). During phase A1, the researcher observed the subject's concentration during learning without any intervention. Phase B involved the implementation of the token economy intervention, while phase A2 involved discontinuing the intervention to observe behavioral changes after the treatment was withdrawn. The use of the A-B-A design aimed to help control threats to internal validity, particularly maturation, so that behavioral changes could be observed more objectively.

Based on the initial observations, the subject had difficulty maintaining focus during writing and reading activities, was easily distracted, frequently left his seat, and required intensive support from a shadow teacher. The subject also occasionally exhibited disruptive behaviors, such as hitting classmates or teachers during the learning process. These conditions indicated that the subject's concentration during learning was still unstable, thus requiring a structured behavioral intervention.

Participants

The research subject is a 10-year-old third-grade male student at an inclusive school. Based on an assessment, the subject was diagnosed with ASD, moderate intellectual disability, and difficulties with emotional regulation. The subject was also found to have problems concentrating during lessons. The subject's ability to focus lasts for 1–2 minutes. The subject often refuses to complete learning tasks and tends to be easily distracted during lessons. The subject frequently resists learning by exhibiting behaviors such as shouting, whining, or leaving his seat, sleeping on the floor,

and walking in circles inside the classroom or going to a favorite spot, such as sitting alone on the sofa. In addition, the subject has also exhibited aggressive behavior on several occasions, such as hitting classmates or teachers when feeling uncomfortable during lessons.

Procedure

The study began with preliminary observations to identify the subjects' behavioral characteristics and learning concentration issues. The researcher then developed an observation sheet and prepared an intervention tool in the form of a token economy board using star symbols as a form of positive reinforcement. The baseline phase involved naturalistic observation of the subjects during the learning process. During the intervention phase, the subjects received a star symbol each time they demonstrated target behaviors, such as paying attention to instructions, completing tasks, and maintaining focus on learning. The collected stars could be exchanged for activities or items the subjects enjoyed, such as a short break or a brief play session. All behavioral changes were recorded using a behavioral checklist during each session.

Data Collection

Data collection was conducted through direct observation of the subjects' behavior during learning activities in the inclusive classroom. The researcher recorded the subjects' behavior scores using observation sheets and behavior checklists in each research session. The study was conducted over 18 sessions, consisting of five sessions in the first baseline phase (A1), eight sessions in the intervention phase (B), and five sessions in the second baseline or withdrawal phase (A2). Each session was held once a day and lasted approximately 10–15 minutes, adjusted according to the subjects' conditions and ability to focus. In phase A1, measurements were taken without any intervention to obtain an initial picture of the subjects' concentration during learning. Subsequently, in phase B, a token economy intervention was administered, while in phase A2, the intervention was discontinued to observe changes in the subjects' behavior after the treatment was withdrawn.

The number of sessions in phases A1 and A2 was kept the same, at five sessions each. This aligns with the A–B–A design, in which the second A phase is conducted in the same manner as the first A phase that is, through repeated measurements without the provision of the intervention (Jannah, 2016). The repetition of the baseline phase (reversal) aims to help researchers confirm that changes in concentration observed during the study were influenced by the token economy intervention, rather than solely due to natural changes in the subjects or other factors unrelated to the treatment.

Data Analysis

In this study, data presentation and analysis were conducted using descriptive graphs. Data from baseline (A1), intervention (B), and post-intervention (A2) measurements will be presented in graphical form to identify changes in the subjects' behavior. Based on these graphs, the changes in the subjects' behavior, as indicated by the measurement results, will be described and reported.

Result

The research findings were obtained through direct observation by the researcher to improve the subjects' concentration during learning. The researcher also served as a shadow teacher for the subjects during the classroom learning process and awarded tokens each time a subject successfully completed a learning task in class. The tokens given were in the form of stars that could be stuck and collected on a token board; one star was equivalent to one task. In addition, the researcher also

provided positive reinforcements in the form of words of praise such as “good,” “cool,” “handsome,” or even addressing the subject as “little brother” because at home he was always called “little brother.” The tokens given to the subject were collected and could be exchanged at each session. They were then accumulated and could be exchanged for something the subject liked, which was usually in accordance with the initial agreement, such as a break, a snack, or playing with their favorite toy.

During the research phase, the researcher also measured the subject’s ability to concentrate on learning. Measurements were taken at the beginning of the baseline phase (A1), the intervention phase (B2), and the post-intervention phase (A2). The results of the measurements regarding the subject’s ability to concentrate on learning during the study are described as follows:

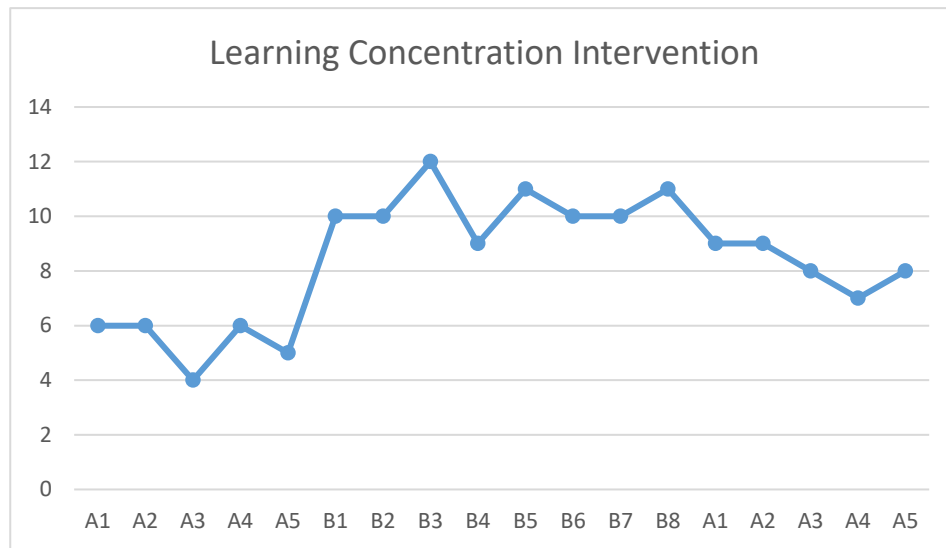


Figure 1: Graph of Learning Concentration Interventions

Figure 1 shows that there was an increase in the subjects’ concentration scores starting from the baseline measurement (A1) through the second intervention phase (B2). Figure 1 shows that at the beginning of the baseline phase (A1), the subjects’ concentration scores were at 6 and then decreased to 4. During this phase, no intervention had yet been administered to the subjects; therefore, the recorded scores reflect the subjects’ initial condition prior to the implementation of the token economy method. Subsequently, there was a significant increase in scores during the first intervention phase (B1), rising from a score of 5 in the baseline phase (A1) to a score of 10. This was followed by a further increase to a score of 12, which represented the highest score achieved. Subsequently, the subject’s learning concentration score decreased from 9 to 7 in the post-intervention phase (A2) and then increased slightly to 8 in the post-intervention phase (A2).

The measurement of the subject’s learning concentration was based on the following four aspects:

1. Focus on defense
2. Focus on task completion
3. Focus on perseverance
4. Focus on discipline

The results for each aspect of concentration during learning will be explained in the figures and descriptions below:

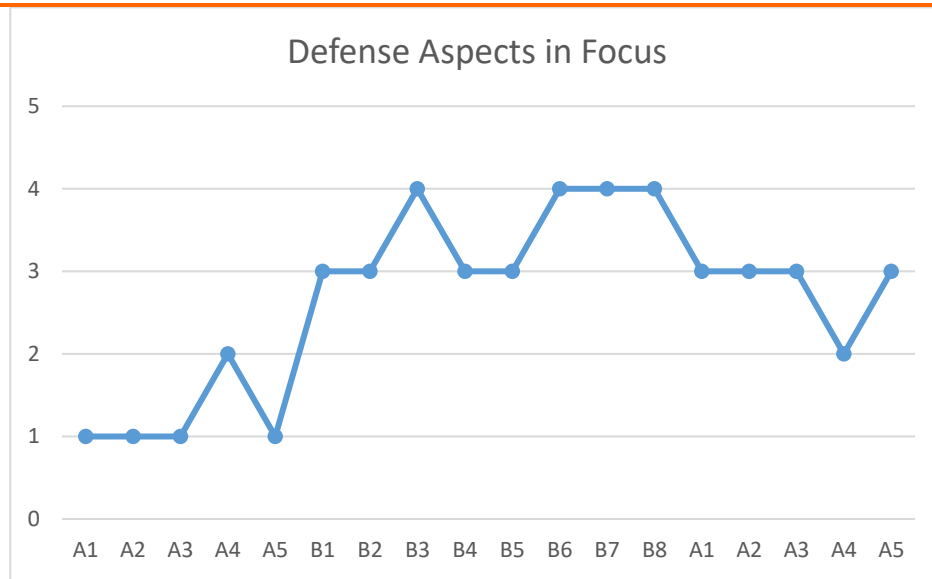


Figure 2: Graph of Learning Concentration Interventions

Figure 2 shows that there was an increase in the subject's focus maintenance score following the token economy intervention. In the first baseline phase (A1), the subject's focus maintenance score remained in the low range of 1–2, indicating that the subject was still easily distracted and had difficulty maintaining attention during the learning process. Subsequently, during the intervention phase (B), the focus maintenance scores increased gradually, starting at a score of 3 and reaching a high of 4 in several intervention sessions. This indicates that the subject began to be able to maintain focus on learning for longer periods and was more engaged in learning activities. Although during the withdrawal or second baseline phase (A2) the scores decreased slightly to the 2–3 range, they were still higher than during the first baseline phase. Overall, the graph shows that the application of the token economy technique had a positive effect on improving the subjects' ability to maintain focus during the learning process.

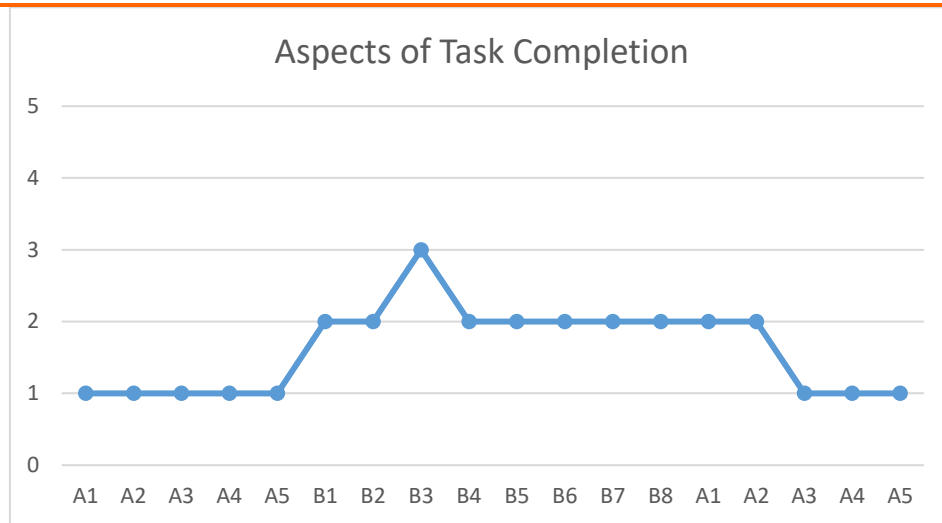


Figure 3: Graph of Task Completion Aspects

Figure 3 shows that there was an increase in the subject's task completion score following the token economy intervention. In the first baseline phase (A1), the task completion score was low at 1, indicating that the subject was still having difficulty completing learning tasks independently and consistently. Entering the intervention phase (B), the task completion score began to increase to 2 and reached its highest score of 3 in session B3. After that, the score tended to stabilize at 2 during the following intervention sessions. This indicates that the subject began to follow and complete learning tasks more effectively than before the intervention. During the withdrawal phase or second baseline phase (A2), the score dropped back to 1 in some of the final sessions; however, overall, the subject still demonstrated better task completion ability compared to the initial condition. Overall, the graph shows that the application of the token economy technique had a positive effect on improving the subject's task completion ability throughout the learning process.

The graph for the perseverance aspect (Figure 4) shows that the subject's scores increased during the first intervention phase. In the first baseline phase (A1), the subject's perseverance scores ranged from 1 to 2, indicating that the subject was still unable to consistently maintain perseverance in completing learning tasks. The subjects appeared easily distracted and were not yet able to sustain learning activities for an optimal duration. After receiving the token economy intervention during the intervention phase (B1), perseverance scores increased to a score of 3, indicating that the subjects began to complete tasks with greater perseverance and consistency. Although there was a slight decline in one of the intervention sessions, overall, the scores remained in a higher category compared to the initial baseline phase. Furthermore, during the second baseline/follow-up phase (A2), the subject's perseverance score remained stable at 2, indicating that the subject's perseverance remained stronger than before the intervention was administered. Based on these results, it can be concluded that the token economy is quite effective in improving perseverance as a component of academic concentration in children with Autism Spectrum Disorder (ASD) in inclusive schools.

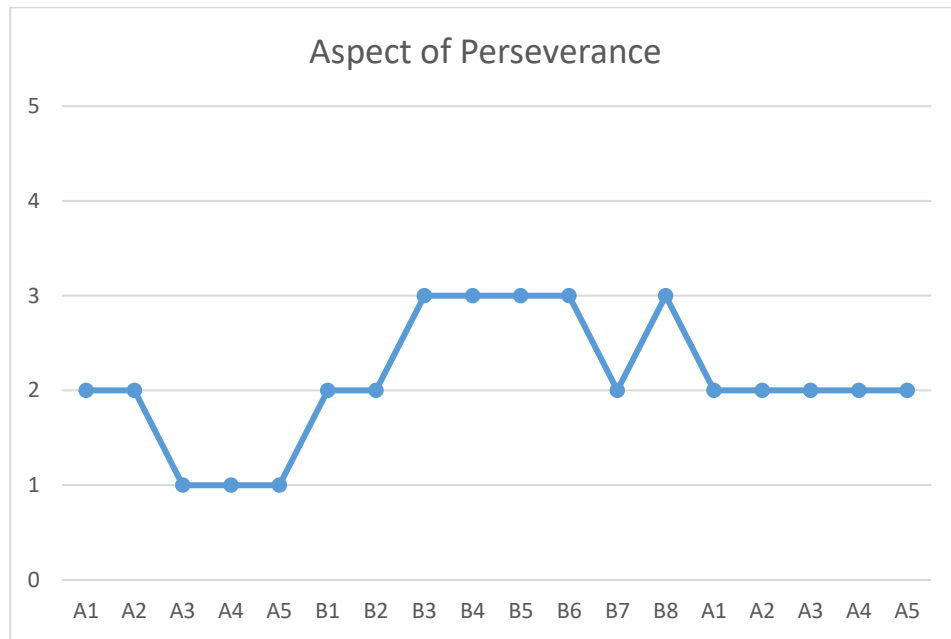


Figure 4: Graph of The Perseverance Dimension

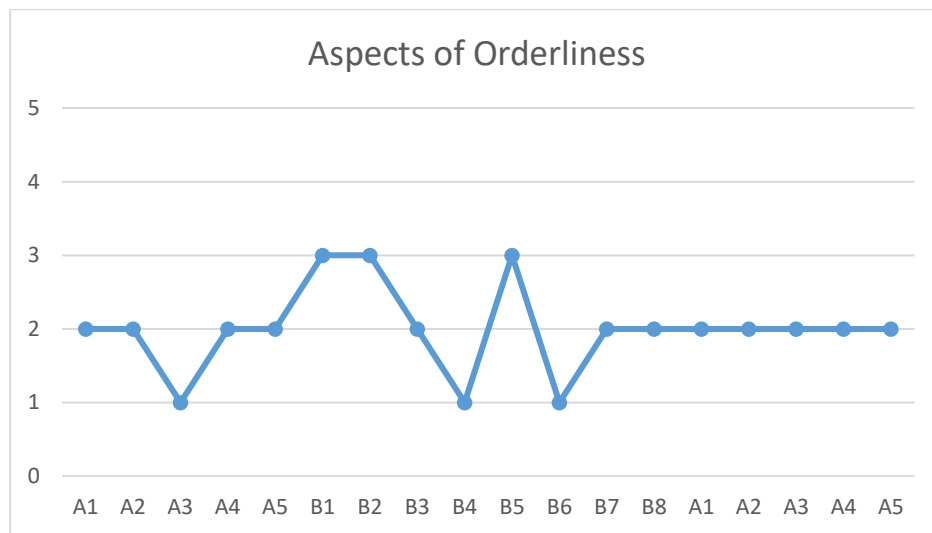


Figure 5: Graph of The Regularity Aspect

The graph of the regularity aspect (Figure 5) shows that the subject's scores changed during the token economy intervention phase. In the first baseline phase (A1), scores for the regularity aspect ranged from 1 to 2, indicating that the subject was still unable to demonstrate regular and consistent learning behavior in participating in learning activities. The subject appeared unable to follow instructions and complete learning activities in a systematic manner. After receiving the intervention during the intervention phase (B1), the regularity scores improved, reaching a score of 3 in several sessions, although there were still fluctuations downward in certain sessions. This indicates that the subjects began to be able to participate in learning activities more regularly than before the intervention. Subsequently, during the second baseline phase (follow-up) (A2), the subject's score

remained stable at 2, indicating that the subject's consistency remained stronger than during the initial baseline phase, despite a slight decline compared to the intervention period. Based on these results, it can be concluded that the token economy is quite effective in improving consistency as part of learning concentration in children with Autism Spectrum Disorder (ASD) in inclusive schools.

Figure 6 shows changes in scores for each aspect of learning concentration throughout the study phases. Regarding focus maintenance, the subjects' scores increased during the first intervention phase (B1), reaching their highest level and remaining relatively stable during the follow-up phase (A2). This indicates that the subjects began to maintain their focus on learning more effectively after receiving the token economy intervention. In the task completion aspect, the subjects' scores also showed an increase during the intervention phase compared to the initial baseline phase (A1), although there were still slight fluctuations in some measurement sessions. Furthermore, in the persistence aspect, the subjects' scores increased gradually during the intervention phase and demonstrated a greater ability to maintain consistent learning activities compared to before the intervention was administered. As for consistency, the subjects' scores also improved during the intervention phase, although they temporarily declined in some sessions; however, overall, the scores during the intervention and follow-up phases remained better than those in the initial baseline phase. Based on these overall measurement results, it can be concluded that the implementation of a token economy had a positive effect on improving the learning concentration of children with Autism Spectrum Disorder (ASD) in an inclusive school in terms of maintaining focus, task completion, perseverance, and regularity throughout the research process.

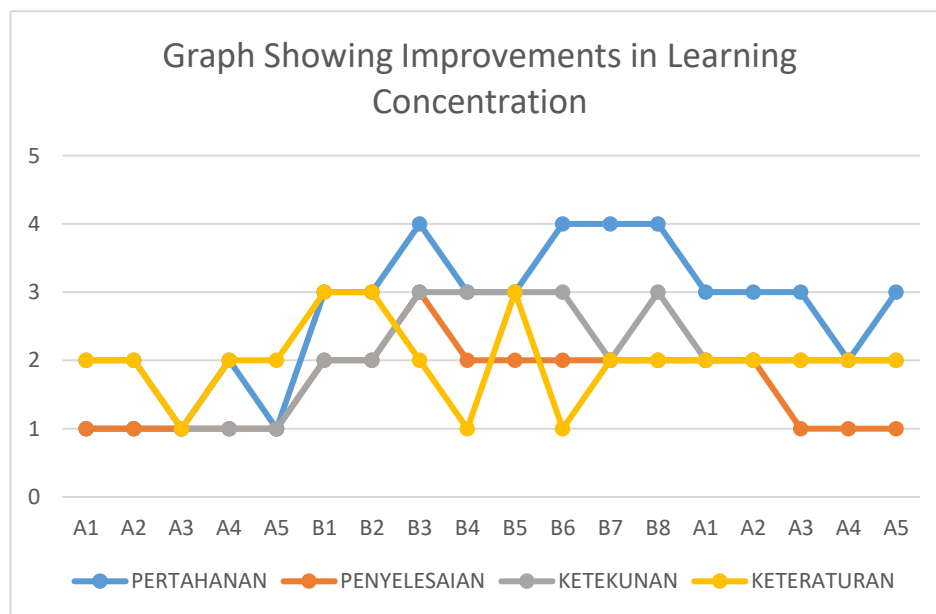


Figure 6: Graph Illustrating Improvements in The Aspect of Concentration During Learning

Discussion

The findings of this study indicate that the implementation of a token economy has a positive effect on improving learning concentration in children with Autism Spectrum Disorder (ASD) in inclusive schools. Based on the results of measurements during the baseline phase (A1), the intervention phase (B), and the second baseline or withdrawal phase (A2), there was an increase in

the subjects' learning concentration scores after they received the token economy intervention. Initially, the subjects exhibited low learning concentration, characterized by being easily distracted, difficulty maintaining focus, a lack of persistence in completing tasks, and an inability to participate in learning activities regularly. These conditions caused the subjects to face obstacles in completing classroom learning tasks and required intensive support from a shadow teacher. The low learning concentration ability among children with ASD in this study aligns with the general characteristics of children with ASD, who often experience attention deficits, difficulty maintaining focus, and exhibit off-task behavior during the learning process (Godwin et al., 2016). Off-task behavior can include leaving one's seat, being easily distracted by the surrounding environment, failing to complete tasks, and lacking engagement in learning activities.

The increase in learning concentration scores during the intervention phase indicates that a token economy can serve as an effective form of positive reinforcement in helping to improve the subjects' learning behavior. In this study, the tokens provided were stars affixed to a token board each time a subject successfully completed a task. These tokens could then be exchanged for rewards preferred by the subjects, such as break time, favorite foods, or playing with their favorite toys. In addition to providing tokens, the researchers also provided social reinforcement in the form of positive verbal praise such as "good," "cool," and nicknames the subjects liked. It is hypothesized that the consistent provision of positive reinforcement was able to increase the subjects' motivation to maintain the desired learning behaviors. This aligns with the theory of operant conditioning proposed by B. F. Skinner, which explains that behavior can be reinforced through the provision of positive reinforcement (Miltnerberger, 2016). In the Applied Behavior Analysis approach, the token economy is used as a reinforcement strategy to enhance adaptive behaviors in children with special needs (Cooper, Heron, & Heward, 2020).

Improved learning concentration in this study was evident across all measurement aspects, namely focus maintenance, task completion, perseverance, and consistency. Regarding focus maintenance, the subjects demonstrated improved ability to sustain attention throughout the learning process. The subjects appeared better able to follow the teacher's instructions and were less easily distracted compared to before the intervention was administered. This indicates that positive reinforcement provided through the token economy helped the subjects increase the duration of their engagement in learning activities. These findings align with the research by Tarbox, Ghezzi, and Wilson (2006), which demonstrated that token reinforcement effectively enhances attending behavior in children with ASD during the learning process.

Regarding task completion, the subject began to demonstrate improved ability to complete learning tasks independently and consistently. Before the intervention, the subject tended to refuse or delay completing tasks. However, during the intervention phase, the subject appeared more motivated to complete tasks because they understood that each successfully completed task would earn specific tokens and rewards. This indicates that the token economy can enhance the subject's external motivation in the learning process. According to Slavin (2018), learning motivation is closely linked to an individual's engagement in academic activities; thus, the higher the learning motivation, the greater the individual's effort in completing learning tasks.

Furthermore, regarding perseverance, the subjects demonstrated improved ability to maintain consistent learning activities. They became better able to stay focused on their tasks without frequently leaving their seats or engaging in activities unrelated to learning. This increase in perseverance indicates that the token economy not only enhances short-term attention but also helps foster more adaptive learning behavior patterns in the subjects. Regarding regularity, the subjects began to follow learning activities in a more sequential and structured manner compared to before

the intervention was implemented. They appeared better prepared to follow instructions, complete tasks in the correct order, and maintain engagement throughout the learning activities.

These findings are also supported by the study by Soares, Vannest, and Harrison (2009), which found that reinforcement and self-monitoring strategies can increase academic engagement in children with ASD. Furthermore, the study by Yell, Meadows, Drasgow, and Shriner (2009) also indicates that positive reinforcement approaches are effective in helping to improve the adaptive behaviors of students with special needs in inclusive educational settings. Nevertheless, in the perseverance aspect of the graph (Figure 4), the subjects' scores showed an increase during the first intervention phase. In the first baseline phase (A1), the subjects' perseverance scores fell within the 1–2 range, indicating that they were still unable to consistently maintain perseverance in completing learning tasks. The subjects appeared easily distracted and were not yet able to sustain learning activities for an optimal duration. After receiving the token economy intervention during the intervention phase (B1), perseverance scores increased to a score of 3, indicating that the subjects began to complete tasks with greater perseverance and consistency. Although there was a slight decline in one of the intervention sessions, overall scores remained in a higher category compared to the initial baseline phase. Furthermore, during the second baseline or follow-up phase (A2), the subject's perseverance score remained stable at 2, indicating that the subject's perseverance remained stronger than before the intervention was administered. Based on these results, it can be concluded that the token economy is quite effective in improving perseverance as a component of academic concentration in children with Autism Spectrum Disorder (ASD) in inclusive schools.

In the second phase (A2), there was a slight decrease in learning concentration scores compared to the intervention phase. This decrease suggests that the behaviors that have been established still require consistent reinforcement to be maintained in the long term. In a behavioral approach, behaviors that no longer receive reinforcement tend to decline or undergo extinction (Miltenberger, 2016). Therefore, the implementation of a token economy for children with ASD must be carried out continuously and consistently, both at school and at home, so that behavioral changes can be sustained for a longer period.

Overall, the results of this study indicate that the token economy is effective in improving the academic concentration of children with Autism Spectrum Disorder (ASD) in inclusive schools. This improvement is evident in the aspects of maintaining focus, task completion, perseverance, and consistency during the learning process. Thus, the token economy can serve as a behavioral intervention method that can be implemented by support teachers, classroom teachers, and parents to help improve the learning concentration of children with ASD.

Conclusion

This study shows that the implementation of a token economy is effective in improving the concentration of children with Autism Spectrum Disorder (ASD) in inclusive schools. This improvement is evident in the subjects' ability to maintain focus, complete tasks, demonstrate perseverance during learning, and participate in learning activities more consistently. The findings indicate that the consistent provision of positive reinforcement through tokens and social reinforcement can increase the subjects' engagement in learning activities and reduce distracting behaviors during learning sessions. Furthermore, the study's results also indicate that changes in learning behavior among children with ASD require sustained reinforcement so that the adaptive behaviors that have been established can be maintained more stably over the long term. Thus, this study supports the effectiveness of behaviorist approaches particularly the token economy as a behavioral intervention in inclusive education settings.

Implications

Theoretically, this study supports the operant conditioning and Applied Behavior Analysis (ABA) approaches, which emphasize the importance of positive reinforcement in fostering adaptive behavior in children with special needs. In practice, the study's findings indicate that a token economy can serve as a practical intervention strategy for classroom teachers, shadow teachers, and parents to help improve the learning concentration of children with ASD during the learning process. Additionally, this study offers implications for inclusive schools to develop more structured and individualized reinforcement-based learning programs tailored to the needs of children with special needs.

Limitations

This study has several limitations. First, the study involved only one subject, so the results cannot yet be generalized to all children with ASD. Second, the relatively short duration of the intervention means that the behavioral changes may not yet be fully established. Third, the observation process was conducted directly by the researcher, who also served as a shadow teacher, so there is still a possibility of subjectivity in the observation of the subject's behavior.

Future Research

Future research is recommended to include a larger number of participants with diverse ASD characteristics to ensure that the study results have stronger external validity. Additionally, the duration of the intervention should be extended to assess the long-term stability of behavioral changes. Future research could also combine the token economy with other interventions, such as visual schedules, self-monitoring, or self-regulation training, to enhance the effectiveness of interventions on learning concentration and adaptive behavior among children with ASD in inclusive schools.

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