Social Stories and Token Economy as a Method of Overcoming Off-task Behavior in Teenager with Autism Spectrum Disorder (ASD)

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Abstract: Behavior that is not incompatible with the purpose of learning activities is called inappropriate behavior and if it appears in the learning activities can be referred to off-task behavior. Off-task behavior has a negative impact of performance and learning outcomes in school settings. This study aims to determine the effectiveness of social stories and token economy as a method of overcoming off-task behavior in teenager with autism spectrum disorder (ASD). Subjects in this study were 18-year-old high school students who broke up from addict gadgets that it shows off-task behavior in schools. The research design that been used is single case experiment design. The data collection instrument was conducted with a series of assessments: observation, interview, CARS checklist, and level of serenity DSM V. The results of assessment show that subjects have experience off-task behavior, i.e. the subject does not pay attention to the teacher, off task in the class, non-completion task given at home, and sleep in the classroom during the lessons. The results of the treatment after giving social stories and token economy on the evaluation of observation and interviews show that: (1) the subject understanding to expected behavior in the class (2) Improving the subject attention to learning in class. Based on this research, it is suggested that the method of social stories and token economy can be one of the medias to reduce the off-task behavior in teenager with autism spectrum disorder (ASD).

1 INTRODUCTION

Adolescent with autism spectrum disorder (ASD) is an autistic child who grew into a teenager, experiencing puberty, and interested in sexuality. Individuals with special needs including autism also experienced the development that is not much different from individuals who are not experiencing it. They experience similar emotional, physical and social changes. Limitations possessed by individuals with autism cause adolescents with autism spectrum disorder (ASD) often perform negative actions, such as more irritability and more sensitive (Schwier and Hingsburger, 2000).

Adolescents with Autism Spectrum Disorders (ASD) frequently demonstrate off-task behavior in school settings, which limits their opportunities to participate in general education settings. Sparzo and Poteet (1997) identified the off-task behavior in class such as impulsiveness, in-attention, non-completion of task, out of seat without permission, unmotivated to learn, unprepared for class and disruptive. Alternative treatment the off-task behavior includes using tactile self-monitoring, individual work system, token economy and social stories.

The tactile self-monitoring intervention was successful in decreasing the number of intervals spent off-task during three independent work tasks and resulted in positive gains in the area of self-management and independence for adolescents with ASD (Root and Saunders, 2014). Research done by Root and Saunders (2014) could not be applied in this research because in the implementation of such research requires a training period (for the participant, the classroom staff) and a vibrating timer was used as the tactile cue to self-monitor. The other researchers examine the effects of a work system on the independent work and play skills of students with autism. Research done by Hume & Odom (2007) indicated that all students showed increases in on-task behavior, increases in the number of tasks completed or play materials utilized, and reduction of teacher prompts. Research by Hume and Odom (2007) cannot be applied in this study because the individual work system requires

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task organization (visually clear information on what the learning task is about). The setting of this research is regular education classes typically have a higher teacher-student ratio which means students do not receive individual monitoring and encourage them as often as possible. Smith (2001) added that social stories provide many benefits as an intervention in schools that focus on real life situations. Benefits include the ability to work individually with a child, ease in the creation and production of the stories, the focus on immediate social difficulties, personalization of the teaching of social skills, their ability to be shared jointly. While the intervention appeared effective in improving body and eye contact, staying on the topic, and disruptive behavior, overall it appeared that the social stories did not cause the change in the behavior. That is, the changes in behavior did not coincide with the presentation and removal of the story. Cihak et al., (2012) video Social Stories to specific functions of behaviors increased task-engagement behaviors in the general education classroom for all students. In addition, special and general education teachers, as well as participating students, reported favorable social acceptability of the intervention.

The other research used behavior approach to decrease off-task behavior. It is like what Klimas and McLaughlin (2007) done, that shows giving token economy can reduce inappropriate behavior in the classroom and raise the level of academic performance. From the results of his research, found that token economy can improve the completion of tasks, which means the time required to complete task is fewer and can reduce inappropriate behavior in the classroom on children with special need (Klimas and McLaughlin, 2007). This study uses social stories and token economy to overcome off-task behavior in adolescents with autism spectrum disorder (ASD). Social stories can provide social information that is easily understood by individuals with autism spectrum disorder (ASD) in the school setting. While a token economy to increase desired behavior in accordance with character of the participant who liked the reward.

Behavior modification is part of the huge influence of intervention in social work practice. One of the techniques commonly used in changing human behavior based on behaviorism approach is token economy. The token Economy is a system of reinforcement for behavior that is managed and modified, someone must be awarded/granted reinforcement to increase or decrease the desired behavior (Garry,1999). Token economy is a form of behavior modification designed to improve desired behavior and reduce unwanted behavior with token usage. Individuals receive the tokens quickly after demonstrating the desired behavior (Miltenberger, 2001). From some previous opinions, it can be concluded that token economy is a way of shaping behavior that utilizes gift exchange for someone who is willing to perform behavior targeted by the teacher, so they can improve the desired behavior and reduce unwanted behavior.

Token economy is one example of extrinsic reinforcement that makes someone do something to achieve, that can increase his attention, both from the level of tenacities and from the level of vigilitate, the goal is to change the extrinsic motivation into intrinsic motivation, in this way it is expected that the desired behavior acquisition can be rewarded for maintaining new behaviors (Tarbox, Ghezzi, Wilson, 2006).

Developmental delay, especially intellectual disability and autism have a history of application behavior. In fact, children and adults with an intellectual disability and/or autism was the first population study gets extensive use of token economy (Ayllon & Azrin, 1965; O'Leary & Drabman, 1971 dalam Matson & Boisjoli, 2009). According to APA (2000), Autistic diagnosis can be enforced if the child has obstacles in three areas: social interaction, communication and behavior. Delays or functional abnormalities in one of these areas must occur before the age of 3 years (Sattler, 2002). But in 2013, APA reviewed on the area of barriers experienced by ASD, from three areas (triadic) into two areas (dyadic), i.e. barriers to social communication, repetitive behavior and limited interest.

The social story was designed by Carol Gray for students with ASD. Social story describes a situation, abilities, and concepts related to social cues, perspectives, and general responses (Gray, 1994 cited in Karkhaneh, et al., 2010). The success of the social story itself is to provide accurate social information to the child and ensure an easy way that understood by the child. When children understand a social situation better, they can learn socially acceptable ways to interact with others (Herriot & Wong, 2015). Social story is one of the methods of intervention that are more focused on improving the quality of life rather than a decrease in negative behavior. Social story is one of the methods of intervention that put more emphasis on the perspective of students, where in the story provided instruction to conduct positive and appropriate social behavior (Crozier and Sileo, 2005). As Iskander and

Rosales (2013) examines the effectiveness of social stories and pair it with procedural differential reinforcement of disruptive behaviors (e.g. arguing with teachers and friends, non-tasking behaviors, unwilling to sit in the chair, unwilling to take turns to speak) of two children at the second grade. The two children were diagnosed with pervasive developmental disorder-not otherwise specified and attention deficit hyperactivity disorder (ADHD). The results of these studies are effective for reducing behavioral problems compared to baseline.

In addition to the methods of social stories there are also methods of behavior modification in the form of a token economy to improve the appearance of expected positive behavior and the token economy that can be given to adolescents who are undergoing treatment for change expected behavior (Miltenberger, 2004). Based on this phenomenon researcher wishes to do research on social stories and token economy as a method of overcoming off-task behavior in teenager with autism spectrum disorder (ASD), that aims to determine the effectiveness of social stories and token economy as a method of overcoming off-task behavior in adults with autism spectrum disorder (ASD).

2 METHOD

2.1 Research Subject

Subjects in this study were 18-year-old adolescents with autism spectrum disorder (ASD) who behaved off-task with behavioral characteristics: 1) did not pay attention to the teacher, 2) exit from the bench, 3) did not do the task, 4) sleep during class hours, 5) not doing homework. Subjects have academic ability equivalent to other regular students.

Subject in school settings cannot be used using gadgets that have an impact on the off-task behavior in schools. Before that happens, subject still completion of the task and able to achieve learning targets.

2.2 Research Design

The study uses single case experiment design. This research is an experimental research with sample one single case. This design is used to evaluate the effect of a treatment or intervention with a single case. The method of determining subject is use through a series of observation and interviewing process. As well as the CARS (childhood autism rating scale) score checklist 30-35 and level of serenity DSM V at the level need support.

2.3 Research Procedure

The procedures in this study consist of a) conducting interviews and observations related to off-duty behavior in the class, b) conducting the CARS assessment to determine the severity of ASD symptoms, c) performing ASD level of serenity assessments on DSM V to determine the required support level, d) make a diagnosis of subject matter, e) provide psycho-education to counselor teachers, f) provide treatment in the form of social stories and token economy method, g) monitoring behavior change through observation technique filled with teacher, h) conduct final evaluation by comparing the condition drawn on the behavior who want to remove and who wants to appear.

2.4 Analysis Techniques

Data analysis technique in this study uses comparative descriptive analysis method that is comparing the behavior of subject in the class, before and after treatment. Data analysis in this study will compare the off-task behavior become on-task behavior that would explain in descriptive.

3 RESULT

Treatment that is given on the subject aims to address the issue of off-task behavior in class. Before giving the treatment, author determines the baseline of behavior that belongs to the off task. Some of these behaviors are not paying attention to the teacher, out of the seat and borrow a friend's mobile phone, not doing the task, sleeping during school hours, and not doing homework.

Based on the assessments results, the subjects off-task behavior not only appeared in school, but also appeared at home, subject never did the homework assignment provided by the teacher. This is evident from the results of observation and interviews. In addition, on the results of the interview and observation, level of Serenity ASD on DSM V note that off-task behavior occurs due to lack of support people around in supporting the subject to complete the task. As it is known that the subject only lives with his mother, both parents have divorced a year ago. Subjects are often left in self-employed rooms while mothers are at work and only

do activities with gadgets (such as tabs and laptop) as well as television.

Therefore, when subject is required to face a new situation in which he can no longer use the gadget experiences problems in facing the situation and raises off-task behavior at school. Off-task behavior arises because social skill is not well developed, which is causes problem. The author makes the draft method of social stories to provide information about the new social situation, which is provided instruction to do positive and appropriate social behavior

Next, the author combines the method of social stories using behavior modification techniques in the form of token economy. As for treatment that given to the subject aims to change the behavior of off-task into the on-task.

On applying of behavioral modification with this token economy technique, subjects are expected to collect tokens (such as stickers, smiley face images) in accordance with the behavioral targets to be achieved. The token that subject has collected can be exchanged for a reward of backing up reinforce which is something the subject wants.

Table 1: Story Given

Script Title	Schedule of Implementation
Classroom rules	5 January2018
Classroom rules	8 January2018

Table 2: Off-Task and On-Task Behavior

Off-Task Behavior	On-Task Behavior Established
Not paying attention to the teacher, getting out of the bench, not doing the task, sleeping during school hours, and not doing homework	Pay attention to the teacher (pay attention to the words and information provided by the teacher)
Out of the bench to see and borrow a friend's mobile phone	Following the teachers instructions
Not doing the task	Doing the task (independently)
Sleep during school hours	Want to follow teacher direction
Not doing the work done at home	Record home duty notes

As for the process implementation after giving the social stories for two days in a row, then execution of token economy was carried out for two weeks with monitoring by each teacher subjects toward the changes behavior of the subject in the class.

Based on evaluation results through observation and interviews after giving treatment in the form of social stories method and token economy. The behavior change of subject can be seen in the target behavior that appears.

Table 3: Details evaluation of subject behavior changes

Target Behavior	Before Treatment				Treatment Week I				Treatment Week II			
	T	W	Th	F	T	W	Th	F	T	W	Th	F
Pay attention to the teacher					√	√	√	√	√	√	√	√
Follow instruction by the teacher					√	√	√	√	√	√	√	√
Doing the task	√	√			√	√	√	√	√	√	√	√
Follow the teacher direction					√	√	√	√	V	√	√	√
record home duty notes					√	-	-	-	-	-	-	-

(T: Tuesday, W: Wednesday, Th: Thursday, F: Friday)

There are changes in the subjects that not pay attention to teachers. Subjects start giving attention to the words and information provided by teachers who originally only in 10 minutes to 45 minutes learning hours. Similar with the subject who out of the seat to see and borrow a friend's mobile phone, there are change that initial intensity around ten times become only two times. Subjects are willing to follow the instruction of teacher, at the beginning subject refused when teacher asked to write notes of subject matter and read the reading material of a chapter section. But, after the treatment, subject responded to all teacher instructions. As well as subjects who never answered teachers' questions directly, became responsive to all teacher direct questions. In addition, there are changes in subject who does not doing the task. Subjects start do all the tasks independently without any verbal prompting to completely. Besides that, there are also change in subject who sleeps during the lesson. Subjects, who initially slept 2-4 hours of lessons for one day, became sleepless for 8 hours until the lesson end. Subject are willing to follow the direction from the teacher to complete the tasks that are considered difficult, even they want to follow the teacher direction to do the questions directly that never be done before. There are also changes with a subject who does not do the work done at home. Subject records the homework assignment and directly does the homework on the same day.

Token economy can be placed in schools or elsewhere. Furthermore, this program can be used as a basic program, with other interventions tailored for communication, independent living skills, and other important are added to token economy (Matson and Boisjoli, 2009). Token economy can improve task completion with less time to complete and can reduce inappropriate behavior in class on children with special needs (Klimas and McLaughlin, 2007). Thus, token economy has been proven from experimental results to be flexible and effective interventions for children with developmental disabilities and deserves attention by current practitioners and researchers for evaluation and further focus.

4 DISCUSSION

Characteristic deficits in social and communication skills of these students often negatively affect their academic success. Academic interventions that better prepare students with ASD to participate in general education settings are needed to mitigate this deficit (Knight et al., 2013).

The problem of off-task behavior of subject is due to the underlying social skills of the subject that have not developed well so that it is difficult to adapt to the new social situation. Social skills are behavior that supports someone to interact positively with others and the environment. Social skills are defined as interpersonal response with the definition of specific operations i.e. makes the child to adapt to the environment through verbal and non-verbal communication (Matson, 2007). Merrel and Gimpel (1998, cited in Matson, 2009) social skills have to do with academic achievement, psychological adjustment, coping skills and work. Key academic and social success for individuals with autism is an integration and collaboration among all team members. A strong assessment is needed, IEP (Individualized Educational Program), and implementation of an intervention strategy (Crasea, Vakil and Welton, 2004).

As for the social stories method are given to provide information about the new social situation (Gray, 1994 cited in Karkhaneh et al., 2010), when a child is able to build social relations with the teachers, then to overcome the emergence of off-task behavior as the impact of social problems and can replace it with the expected behavior. In this study the expected behavior in which the story is provided instruction to conduct a positive and appropriate social behavior.

In this study the subject did not pay attention to the teacher being paying attention to words and information given teachers, when subjects want to borrow mobile phones start to obey the instruction of teachers, start to complete the assignment, sleep during the lesson to follow the direction of the teacher, and start doing homework as soon as they are given by the teacher. In addition, after giving social stories, the formation of behaviors rose in behavioral targets followed by token economy to increase the appearance of expected positive behavior and token economy that can be given to adolescence is undergoing treatment to change the behavior expectations (Miltenberger, 2004).

5 CONCLUSIONS

Based on the results of comparative descriptive analysis that has been done, it can be concluded that social stories and token economy are effective as a method to overcome off-task behavior in teenager with autism spectrum disorder (ASD). The existence

of different behavioral targets before and after intervention indicates that there is off-task behavior being an on-task adolescent with autism spectrum disorder (ASD).

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