



Social Skills Development for Students with Autism Spectrum Disorders in Inclusive Classrooms by Social Stories Approach

Senior expert level, lect. Sawitree Wongkittirungrueang, Prof. Dr. Unchalee Sanrattana,
Dr. Somporn Warnset

Khon Kaen University, Faculty of Education, Special Education School Division, Khon Kaen University
Demonstration School, Thailand

Abstract

The research aimed to employ the social story approach to enhance the social skills of students with autism spectrum disorders (ASDs), particularly those in the high-functioning category, within a full inclusion setting. Despite their enrollment in an inclusive classroom, these students encountered challenges related to social skills, including the recognition of emotional expressions, interactions with peers, appropriate behavior in societal settings, collaboration with others, and adherence to social norms. The research utilized the Individual Implementation Plan (IIP) for social stories and a social skill's observation form tailored for students with ASDs. This study employed a single-subject across behaviors, or an A1-B-A2 design, dividing the intervention into three stages: the initial baseline (A1), the subsequent treatment phase (B), and the final withdrawal or post-trial period (A2). The findings indicated that following the implementation of social stories, students with ASDs in inclusive classrooms exhibited significant improvements in recognizing others' emotions and expressions, engaging in social interactions, demonstrating appropriate behavior in various societal contexts, collaborating effectively with peers, and adhering to social rules. Notably, these advancements were most pronounced during the withdrawal or post-trial period (A2).

Keywords: Social story, Social skills, Autism, Students with Autism Spectrum Disorders

*** This research project has been approved by the Human Research Ethics Committee of Khon Kaen University. Criteria according to the Belmont Report and GCP in Social and Behavioral Research No.: HE663098 No.: 4.3.04: 14/2023, certified on May 15, 2023.

1. Introduction

The development of the nation's youth is an important foundation for the country's development and progress. To prepare children to grow up to be quality adults and develop manpower to have work performance that is consistent with the needs of the job market and

national development, according to the National Education Plan 2017–2036 (Office of the Education Council: ONEC, Ministry of Education, 2017). Also, live together in society in peace on the basis of basic rights according to the Constitution of the Kingdom of Thailand, B.E. 2017. That said, people are equal before the law, have rights and freedoms, and are equally protected by the law. In particular, students with autism spectrum disorders (ASDs), are classified as a type of disabled person, according to the announcement from the Ministry of Education. It is a group of people who have been diagnosed according to the diagnostic criteria as having long-lasting disabilities. (Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition: DSM-5). There are also problems with adapting and preparing in various aspects for entering the new environment (Estival et al, 2023). Problems with communication and social skills, especially social skills problems, are often found in many contexts and are often accompanied by symptoms of emotional impairment related to society, and understanding of one's own social relationships (Dechsling et al., 2022) and problems in adjusting while studying together with friends in an inclusive class. Preparing in various aspects when entering a new environment is therefore extremely necessary (Petersson-Bloom & Holmqvist, 2022).

Social Stories are skills used in interaction and communication with each other in society. Expressing emotions and feelings of others, how to behave in society, working with others and compliance with social rules (Office of the Basic Education Commission Ministry of Education, Ministry of Education, 2012; Chen et al., 2022). Social skills are skills that are important for living life and living together in society for people at all levels, from families, classes, schools, communities, countries and world society. Therefore, students with ASDs need to develop social skills from the beginning, appropriate for their age. (Dean & Chang, 2021; Wongkittirungrueang, 2016). Also, the cooperation of all personnel involved in helping students with autism be able to leave their own world and join others. Developing familiarity, participating in activities with others, and learning more about the world around you (Wongkittirungrueang, 2019; Almughyiri, 2023). Social stories teach social skills to autistic children by presenting short stories and emphasizing understanding and guiding social behavior relevant to the child in each issue. Social story for students with ASDs is a picture book with accompanying text that takes the shape of a short story to improve each student's social awareness of their individual situation. There are steps to take: 1) Find a situation that is the student's target problem. 2) Gather information related to the target situation. 3) Write it into a social story. Then have students read the content or have it read to them. 4) Prepare situations to give students opportunities to use that skill. 5) Evaluate results, and 6) Provide regular reinforcement (Gray, 2010).

Therefore, the social story method aims to make students understand the rules of society and recognize, remember, and understand facial expressions and gestures. To teach students with ASDs to recognize that understanding the emotions of others and understanding one's own emotions and expressing them appropriately is meaningful models for students with ASDs.

2. Objective

1. To study the social skills of students with ASDs in inclusive classrooms.
2. To develop the social skills of students with ASDs in inclusive classrooms through social stories.

3. Research methodology

3.1 Target group

2 students with ASDs in elementary school, both of whom have been diagnosed with High Functioning Autism, purposive sampling. They can read, write, calculate, and learn full-time inclusion, However, there is still a lack of social skills in recognizing the emotional expressions and feelings of others, interacting with others, behave in society, working with others and complying with social rules.

3.2 Research tools

1) The tools used in the experiment were 10 Individual Implementation Plan: IIP in social story teaching and social story books.

2) The tools used to collect data were social skills observation form for students with ASDs.

3.3 Research methodology

A Single Subject Design Across Behavior, (A1–B–A2 design), divided into 3 phases.

Phase 1: Baseline or pre-trial period (A1), observed the social interactions of students with ASDs without any intervention for 1 week, by social skills' observation form for students with ASDs until the baseline data was obtained to provide intervention, a total of 5 times.

Phase 2: Action period (B), conduct an experiment using the social story method. One story per week, 3 days, Monday, Wednesday, and Friday. Approximately 20–30 minutes per day for 5 weeks.

Phase 3: Withdrawal or post-trial period (A2), the researcher and research assistant observed the social skills and behavior of students with ASDs. There has not been any action taken during the post-experiment period or the withdrawal period for 1 week, by social skills' observation form for students with ASDs, a total of 5 times.

3.4 Data analysis

Data from the social skills observation form for students with ASDs were calculated as percentages, mean and, also descriptive narrative. To summarize as a table and a line graph all 3 phases. To compare social skills in various situations before and after using social stories.

4. Results

Summarize research results and discuss data by analyzing the social skills' observation forms of students with autism. Observing the baseline phase (A1) 5 times, the action phase (B1) 15 times, the withdrawal phase (A2) 5 times, and the action phase (B2) 5 times, totaling 25 observations divided into 3 phases, it can be summarized as follows:

4.1 Social skills of students with ASDs who received the social stories method, 1: “Recognition of emotional expressions and feelings of others,” as shown in table 1.1

Table 1.1: Frequency and mean values of social skill scores of students with ASDs who received the social stories method, 1: “Recognition of emotional expressions and feelings of others”

No.	Baseline or Pre-trial period (A1)						
	1	2	3	4	5	Total	Average

1	5	7	5	8	7	32	6.40										
2	6	7	7	8	8	33	6.60										
No.	Treatment (B)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total	Average
1	7	6	8	9	8	8	7	7	8	6	8	9	7	8	10	118	7.87
2	7	8	9	8	7	9	9	8	6	8	7	9	8	8	9	120	8.00
No.	Withdrawal or Post-trial period (A2)																
	1		2		3		4		5		Total			Average			
1	8		8		9		7		9		40			8.00			
2	7		9		8		9		10		43			8.60			

From Table 1.1, it was found that the mean frequency of social skill scores of students with ASDs who received activities organized by Social Stories, aspect 1: “Recognition of emotional expressions and feelings of others”. Results of observation during the baseline or pre-trial period (A1) of students 1 and 2 were 6.40 and 6.60 respectively. In the treatment phase (B), it found that students 1 and 2 had a mean frequency score of social skills equal to 7.87 and 8.00 respectively, and the withdrawal period or post-trial period (A2) found that students 1 and 2 had mean frequency scores of social skills equal to 8.00 and 8.60, respectively. Furthermore, the researcher has presented the mean frequency scores of social skills in aspect 1: “Recognition of emotional expressions and feelings of others” of each one in all 3 phases as shown in Diagrams 1.1 and 1.2 as follows:

Diagram 1.1: The graph shows the frequency of social skills in the behavior of students with ASDs 1 who received activities using the social story's method, 1: “Recognition of emotional expressions and feelings of others” in all 3 phases

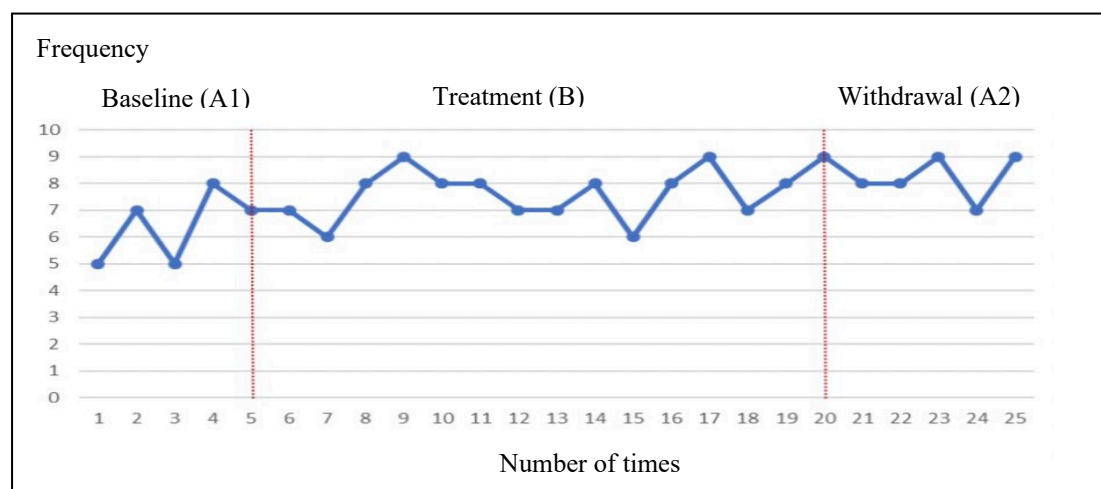


Diagram 1.2: The graph shows the frequency of social skills in the behavior of students with ASDs 2 who received activities using the social story's method, 1: "Recognition of emotional expressions and feelings of others" in all 3 phases

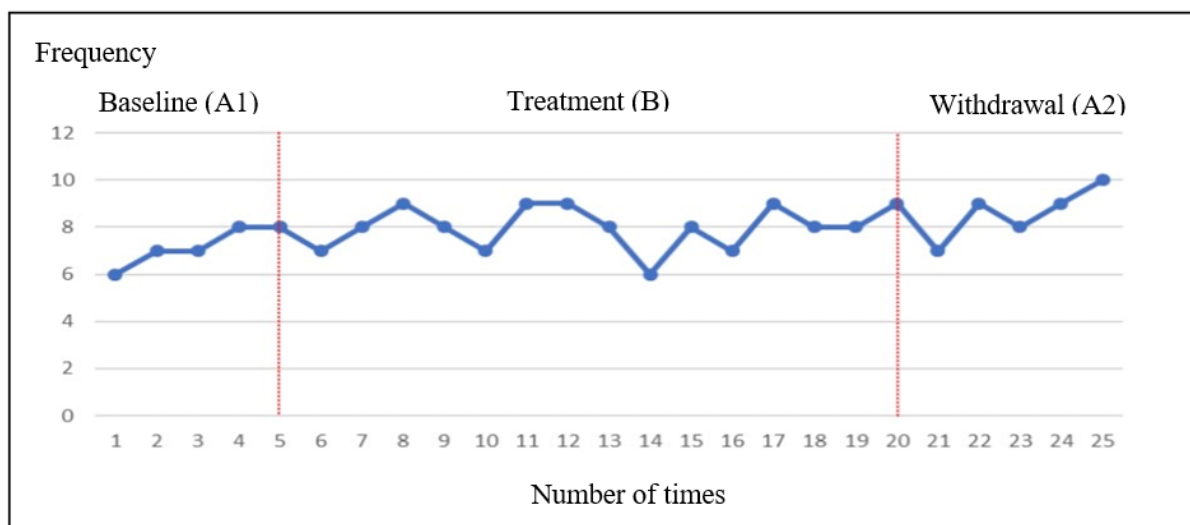


Table 1.2: Frequency and mean values of social skill scores of students with ASDs who received the social stories method, 2: "Interaction with others"

	Baseline or Pre-trial period (A1)																
No.	1	2	3	4	5	Total					Average						
1	5	8	5	8	6	32					6.40						
2	7	5	8	8	7	35					7.00						
	Treatment (B)																
No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total	Average
1	8	8	8	8	5	9	7	6	7	9	8	6	8	7	10	114	7.60
2	8	6	6	9	8	7	8	8	9	7	9	7	7	8	9	120	8.00
	Withdrawal or Post-trial period (A2)																
No.	1	2	3	4	5	Total					Average						
1	7	9	8	9	9	42					8.40						
2	8	9	10	9	8	44					8.80						

From Table 1.2, it was found that the mean frequency of social skill scores of students with ASDs who received activities organized by social stories, 2: “Interaction with others”. Results of observation during the baseline or pre-trial period (A1) of students 1 and 2 were 6.40 and 7.00 respectively. In the treatment phase (B), it found that students 1 and 2 had a mean frequency score of social skills equal to 7.60 and 8.00. respectively, and the withdrawal period or post-trial period (A2) found that students 1 and 2 had mean frequency scores of social skills equal to 8.40 and 8.80, respectively. Additionally, the researcher has presented the mean frequency scores of social skills in 2: “Interaction with others” of each one in all 3 phases as shown in Diagrams 1.3 and 1.4 as follows:

Diagram 1.3: The graph shows the frequency of social skills in the behavior of students with ASDs 1 who received activities using the social story's method, 2: “Interaction with others” in all 3 phases

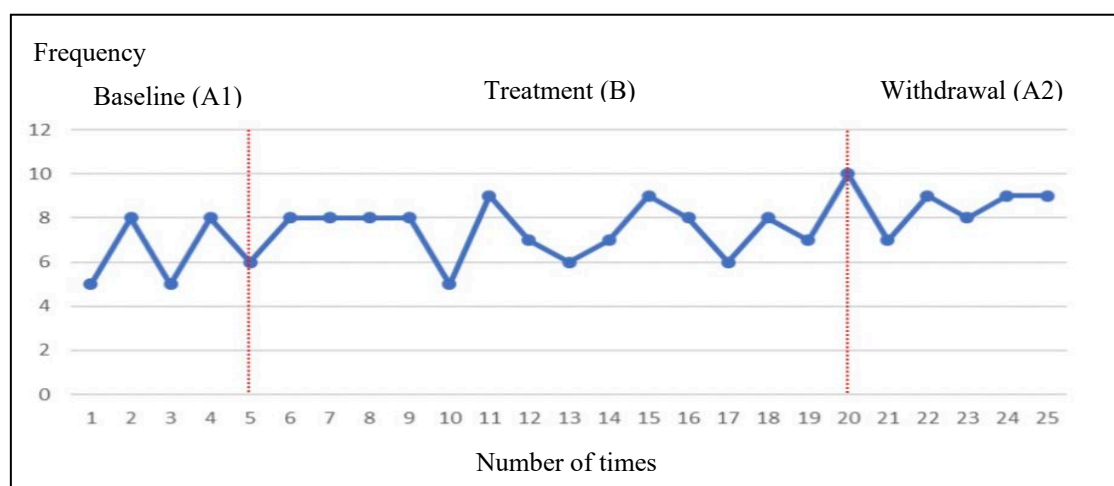


Diagram 1.4: The graph shows the frequency of social skills in the behavior of students with ASDs 2 who received activities using the social story's method, 2: "Interaction with others" in all 3 phases

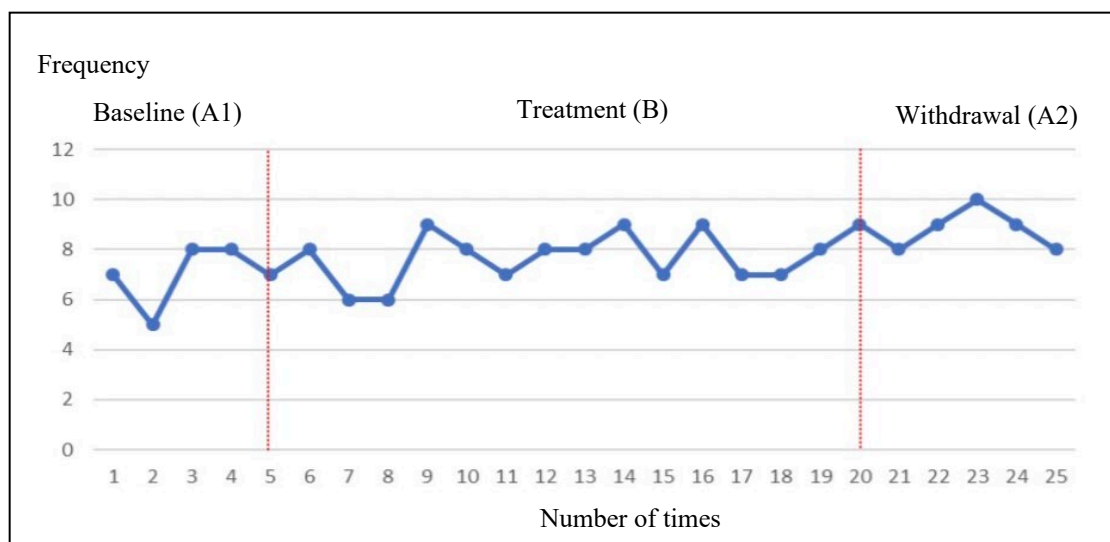


Table 1.3: Frequency and mean values of social skill scores of students with ASDs who received the social stories method, 3: "Behave in society"

Baseline or Pre-trial period (A1)																		
No.	1		2		3		4		5		Total					Average		
1	7		5		8		5		7		33					6.60		
2	6		6		6		7		9		34					6.80		
Treatment (B)																		
No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total	Average	
1	9	8	9	9	10	9	10	9	9	10	9	10	10	10	8	139	9.27	
2	8	9	9	8	10	9	9	10	9	8	10	8	10	10	9	136	9.07	
Withdrawal or Post-trial period (A2)																		
No.	1		2		3		4		5		Total					Average		
1	9		10		10		8		10		47					9.40		
2	10		10		9		9		10		48					9.60		

From Table 1.3, it was found that the mean frequency of social skill scores of students with ASDs who received activities organized by social stories, 3: "Behave in society". Results of observation during the baseline or pre-trial period (A1) of students 1 and 2 were 6.60 and 6.80 respectively. In the treatment phase (B), it found that students 1 and 2 had a mean frequency score of social skills equal to 9.27 and 9.07 respectively, and the withdrawal period or post-trial period (A2) found that students 1 and 2 had mean frequency scores of social skills equal to 9.40 and 9.60, respectively. Furthermore, the researcher has presented the mean frequency scores of social skills in 3: "Behave in society" of each one in all 3 phases as shown in Diagrams 1.5 and 1.6 as follows:

Diagram 1.5: The graph shows the frequency of social skills in the behavior of students with ASDs 1 who received activities using the social story's method, 3: "Behave in society" in all 3 phases

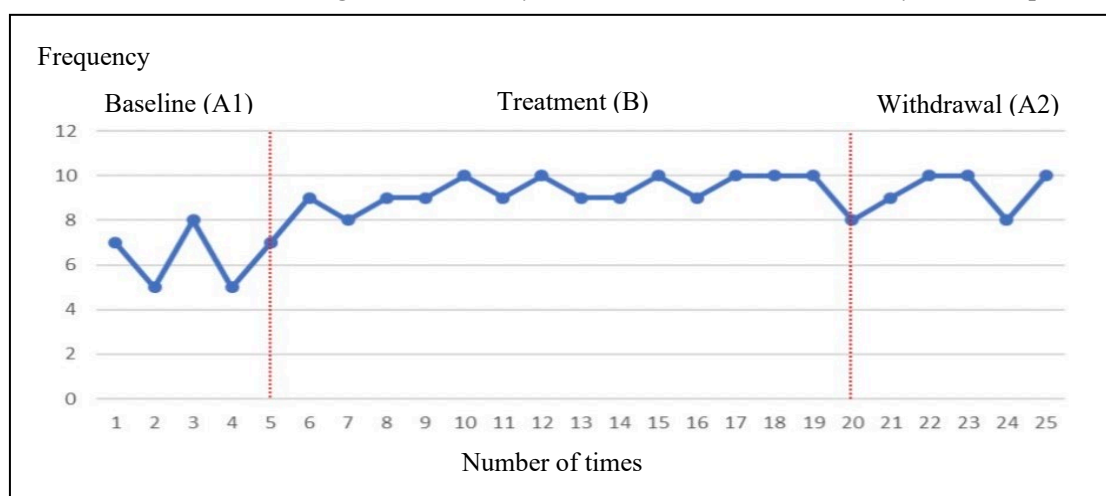


Diagram 1.6: The graph shows the frequency of social skills in the behavior of students with ASDs 2 who received activities using the social story's method, 3: "Behave in society" in all 3 phases

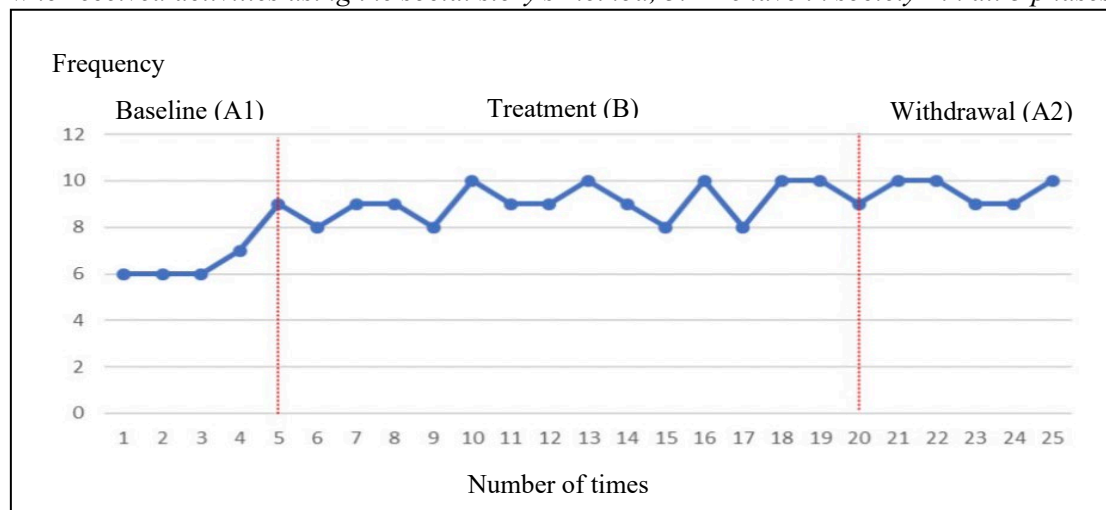


Table 1.4: Frequency and mean values of social skill scores of students with ASDs who received the social stories method, 4: "Working with others"

	Baseline or Pre-trial period (A1)																
No.	1	2	3	4	5	Total					Average						
1	5	7	3	3	5	34					6.80						
2	6	7	6	6	5	30					6.00						
	Treatment (B)																
No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total	Average
1	9	8	10	8	9	8	10	8	9	10	9	9	10	8	10	134	8.93
2	8	9	6	9	7	10	7	8	10	7	9	9	10	10	10	128	8.53
	Withdrawal or Post-trial period (A2)																
No.	1	2	3	4	5	Total					Average						
1	9	8	10	8	10	45					9.00						
2	9	10	9	9	10	47					9.40						

From Table 1.4, it was found that the mean frequency of social skill cores of students with ASDs who received activities organized by social stories, 4: “Working with others”. Results of observation during the baseline or pre-trial period (A1) of students 1 and 2 were 6.80 and 6.00 respectively. In the treatment phase (B), it found that students 1 and 2 had a mean frequency score of social skills equal to 8.93 and 8.53 respectively, and the withdrawal period or post-trial period (A2) found that students 1 and 2 had mean frequency scores of social skills equal to 9.00 and 9.40, respectively.

Additionally, the researcher has presented the mean frequency scores of social skills in 4: “Working with others” of each one in all 3 phases as shown in Diagrams 1.7 and 1.8 as follows:

Diagram 1.7: The graph shows the frequency of social skills in the behavior of students with ASDs 1 who received activities using the social story's method, 4: “Working with others” in all 3 phases

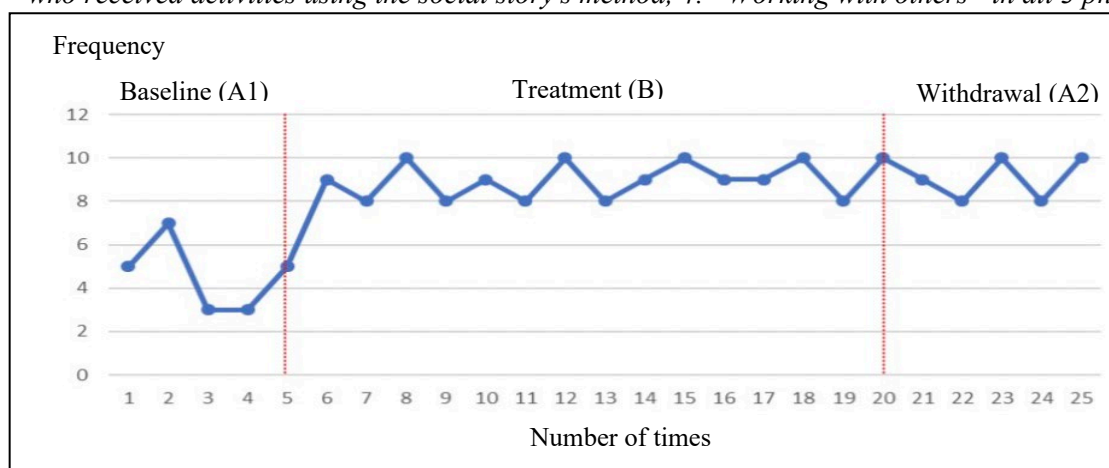


Diagram 1.8: The graph shows the frequency of social skills in the behavior of students with ASDs 2 who received activities using the social story's method, 4: “Working with others” in all 3 phases

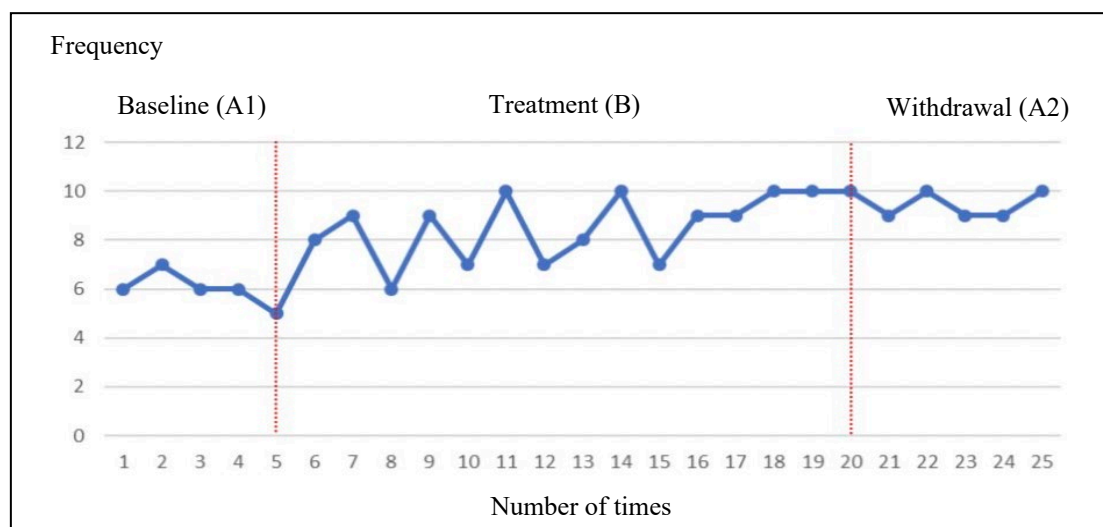


Table 1.5: Frequency and mean values of social skill scores of students with ASDs who received the social stories method, 5: “Compliance with social rules”

No.	Baseline or Pre-trial period (A1)																	
	1		2		3		4		5		Total			Average				
1	6		4		5		6		4		35			7.00				
2	6		7		6		6		7		33			6.60				
No.	Treatment (B)																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total	Average	
1	9	8	10	9	10	9	10	10	9	10	8	8	10	9	9	137	9.13	
2	9	7	10	8	9	9	10	8	10	8	10	10	8	10	8	134	8.93	
No.	Withdrawal or Post-trial period (A2)																	
	1		2		3		4		5		Total			Average				
1	9		9		8		10		9		45			9.00				
2	9		8		9		8		10		44			8.80				

From Table 1.5, it was found that the mean frequency of social skill scores of students with ASDs who received activities organized by social stories, 5: “Compliance with social rules”. Results of observation during the baseline or pre-trial period (A1) of students 1 and 2 were 7.00 and 6.60 respectively. In the treatment phase (B), it found that students 1 and 2 had a mean frequency score of social skills equal to 9.13 and 8.93 respectively, and the withdrawal period or post-trial period (A2) found that students 1 and 2 had mean frequency scores of social skills equal to 9.00 and 8.80, respectively.

Furthermore, the researcher has presented the mean frequency scores of social skills in 5: “Compliance with social rules” of each one in all 3 phases as shown in Diagrams 1.9 and 1.10 as follows:

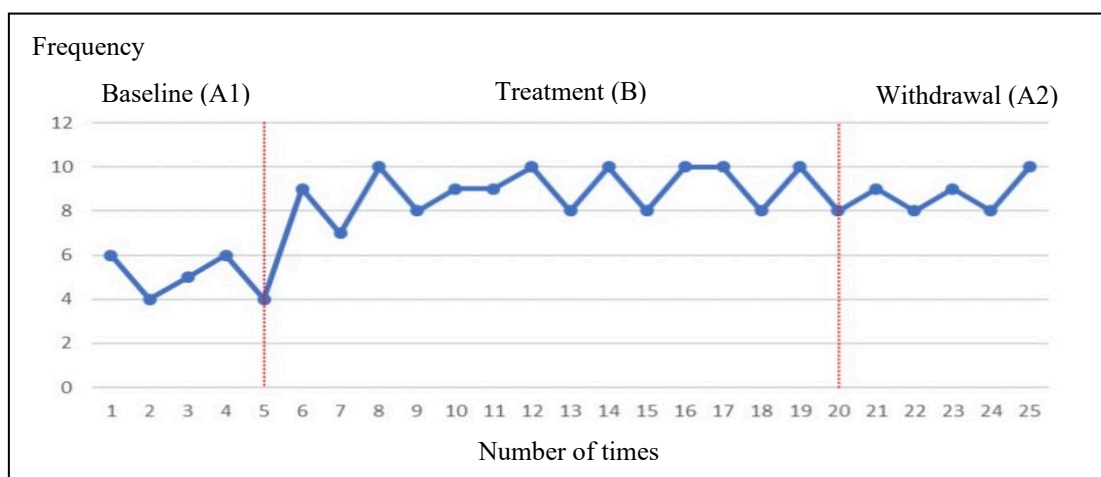
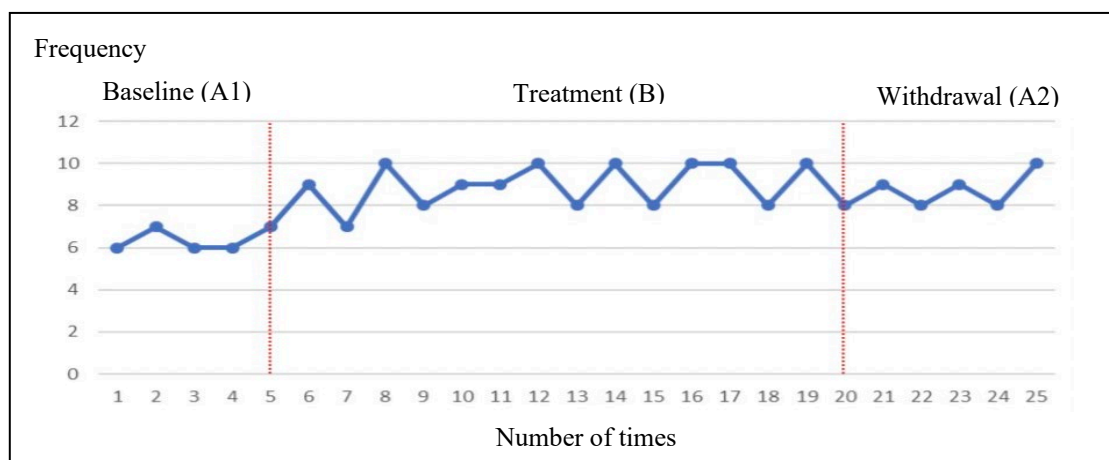
Diagram 1.9: The graph shows the frequency of social skills in the behavior of students with ASDs 1 who received activities using the social story's method, 5: “Compliance with social rules” in all 3 phases

Diagram 1.10: The graph shows the frequency of social skills in the behavior of students with ASDs 2 who received activities using the social story's method, 5: "Compliance with social rules" in all 3 phases



4.2 Comparison of the mean scores of social skills of students with ASDs who received the social stories method

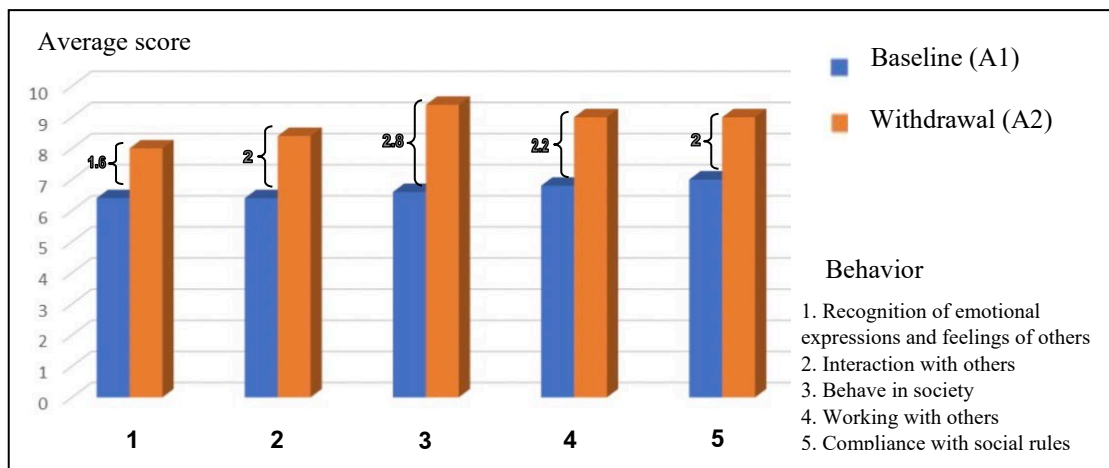
Table 1.6: Shows a comparison of the mean social skill scores of students with ASDs using the social story's method between the baseline or pre-trial period (A1) and the withdrawal or post-trial period (A2)

No.	Recognition of emotional expressions and feelings of others			
	A1	Interpretation	A2	Interpretation
1	6.40	Moderate	8.00	Good
2	6.60	Good	8.60	Very good
No.	Interaction with others			
	A1	Interpretation	A2	Interpretation
1	6.40	Moderate	8.40	Good
2	7.00	Good	8.80	Very good
No.	Behave in society			
	A1	Interpretation	A2	Interpretation
1	6.60	Good	9.40	Very good
2	6.80	Good	9.60	Very good
No.	Working with others			
	A1	Interpretation	A2	Interpretation
1	6.80	Good	9.00	Very good
2	6.00	Good	9.40	Very good
No.	Compliance with social rules			
	A1	Interpretation	A2	Interpretation
1	7.00	Good	9.00	Very good
2	6.60	Good	8.80	Very good

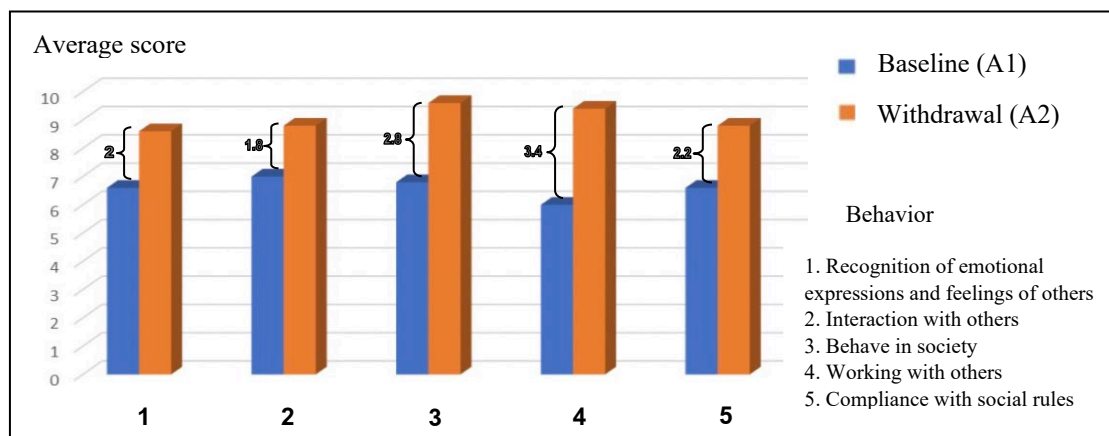
From Table 1.6, it was found that the mean frequency of social skill scores of students with ASDs who received activities organized by social stories, between the baseline or pre-trial period (A1) and the withdrawal or post-trial period (A2) of 2 students in all 5 areas: (1) Recognition of emotional expressions and feelings of others (2) Interaction with others (3) Behave in society (4) Working with others and (5) Compliance with social rules as follows: (1) Recognition of emotional expressions and feelings of others of the withdrawal or post-

trial period (A2), the average scores were 8.00 and 8.60, respectively. Which is higher than the baseline or pre-trial period (A1), with averages equal to 6.40 and 6.60, respectively. (2) Interaction with others of the withdrawal or post-trial period (A2), the average scores were 8.40 and 8.80, respectively. Which is higher than the baseline or pre-trial period (A1), with averages equal to 6.40 and 7.00, respectively. (3) Behave in society of the withdrawal or post-trial period (A2), the average scores were 9.40 and 9.60, respectively. Which is higher than the baseline or pre-trial period (A1), with averages equal to 6.60 and 6.80, respectively. (4) Working with others of the withdrawal or post-trial period (A2), the average scores were 9.00 and 9.40, respectively. Which is higher than the baseline or pre-trial period (A1), with averages equal to 6.80 and 6.00, respectively and (5) Compliance with social rules of the withdrawal or post-trial period (A2), the average scores were 9.00 and 8.80, respectively. Which is higher than the baseline or pre-trial period (A1), with averages equal to 7.00 and 6.60, respectively.

Diagrams 1.11: The graph shows a comparison of the mean of social skills scores of students with ASDs 1 using the social story's method between the baseline or pre-trial period (A1) and the withdrawal or post-trial period (A2)



Diagrams 1.12: The graph shows a comparison of the mean of social skills scores of students with ASDs 2 using the social story's method between the baseline or pre-trial period (A1) and the withdrawal or post-trial period (A2)



5. Discussion

This research was to study and develop the social skills of students with ASDs in inclusive classrooms through social stories. The result showed that after using social stories, students with ASDs in inclusive classrooms had social skills in recognition of emotional expressions and feelings of others, interaction with others, behavior in society, working with others and compliance with social rules. All these increases were significant in the last stage, which was the withdrawal or post-trial period (A2). Which is consistent with the hypothesis that after students with ASDs used social stories, their social skills increased. The results also suggest that the learning of appropriate behavior changes only during action. Consistent with Frolli et al (2022) and Park et al (2023) investigated the effectiveness of social stories in improving social interaction and personality development in adults with ASDs, learning disabilities, and dyslexia. It was found that all target groups had behaviors that changed positively in a short period of time and must be further developed for these behaviors to have lasting changes. It is also consistent with Chaithornthanawat (2019) studied the development of social skills in autistic students at the grade 3 level by teaching with a group of friends and role-playing. The research results found that the social skills for initiating conversations with friends of students with ASDs were higher than before after being taught by a group of friends and using role-playing.

In the three phases of the experiment, it was found that students with ASDs had better social skills, respectively. When students study together with friends in a shared class, both homeroom teachers Most subject teachers and classmates accept and admire students with ASDs who are able to express their emotions and the feelings of others. Interact with others and behave in society work together with others follows the rules of society very well. At the same time, it makes students with ASDs happy, attentive to learning, and more focused on their studies. Which developed in this order. It can also be used to develop social skills by using social stories continuously until students are able to act in various situations independently and naturally.

6. Suggestions for applying the research results

1. The use of social stories in establishing desirable characteristics for students with ASDs should be investigated, with parents encouraged to take on the task of teaching that activity to their children.
2. The use of social stories should be studied to develop the social skills of students with special needs in groups other than those with ASDs.

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