

# SOCIAL SKILLS DEVELOPMENT FOR STUDENTS WITH AUTISM IN INCLUSIVE SCHOOLS: THAILAND

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## **Abstract**

The purpose of this research was threefold: (a) to inventory the incidence of autism among students in the educational system of Khon Kaen Province, Thailand, at each of three grade levels (kindergarten, primary and secondary), (b) to identify the most frequently occurring social skills deficits among autistic children at each of the grade levels, and (c) to develop social skills stories and assess the effectiveness of presenting those stories to a selected student at each grade level. Research found that most autistic students in regular schools were boys (78.62%). In total, 36.55 % of autistic students were studying at the kindergarten level, 55.86% were studying at the primary level, and 7.59% were studying at the secondary level. The most frequently observed deficits in social skills were in the areas of self-control behavior, communication skills and working in a team. Presentation of the social stories resulted in pronounced improvement in most areas of deficiency.

**Keywords:** Students with Autism, Social Skills, Inclusive Schools

## **Introduction**

The Constitution of The Kingdom of Thailand 2007; The National Education Act, 1999; and Amendments 2002 (Second Issue); and the Education for the Disabled Act, 2008 each state that all individuals have an equal right for basic education of not less than 12 years, which is to be provided by the government with good quality and free of charge. The right applies to the disadvantaged, the disabled, and those suffering hardship, providing life-long free education for the disabled.

Autism is a specific diagnosis included under the broader term, autistic spectrum disorder (ASD). In addition to autism, Asperger's, Rett's syndrome, childhood disintegrative disorder, and pervasive development disorder not-otherwise-specified are part of ASD. All conditions included in ASD fall along a continuum in each area of development ranging from severe problems to above average abilities. No facial characteristics or other physical features thought of as an invisible disability. Persons with ASD are characterized by problems in three areas of development: communication, social skills, and patterns of behavior or range of interests, all of which result from neurological impairment (American Psychiatric Association, 1994; Research Council, 2001). Presently, students with ASD are enrolled in regular education with an increasing trend owing to the aforementioned Acts. However, it has been found that ASD students in inclusive schools do not usually succeed, primarily due to a lack of social skills (Uthairattanakit, 2002). The problems frequently found include lack of understanding of social regulations, absence of interest in the surroundings or surrounding people, and inability to build social relationships with their peers. All of these raise difficulty in relationships with others. Thus, education for ASD in inclusive classrooms must involve academic, social and emotional skill integration of normal students and ASD in order that they can develop mutual learning.

The "Social Story" was invented by Carol Gray in 1991 with an aim to teach social skills and understanding to students with autism (Gray, 2000). The social story is appropriate for use with autistic children who range from moderately severe to low severe (Swaggart, et al, 1995; Noris & Dattilo, 1999). The present researchers were interested in the construction and application of social skills stories designed to facilitate the development of social skills in students with autism in inclusive schools at each of three developmental levels: early childhood, primary, and secondary schools. It was anticipated that the use of social stories with students with autism would facilitate basic social interactions with their peers and others and at the same time alleviate the behaviors which hinder socialization and knowledge acquisition.

### **Objectives**

1. To survey problematic social skills of students with autism in inclusive classrooms.
2. To write and refine appropriate social stories for students with autism in inclusive classrooms.
3. To present social stories to students with autism in inclusive classrooms and to assess the impact of the presentation.

### **Research Methodology**

The research was conducted in three 3 phases as follows:

#### *Phase 1 - Survey*

Problematic social skills. Informants were comprised of 145 teachers of ASD students at pre-primary, primary, and secondary levels of the academic year 2008 in inclusive schools and the Special Educational Center Area 9 in Khon Kaen Province.

The research tool was a social skill survey form, covering three aspects of social skills, (a) self control, (b) communication with others, and (c) playing and working with others. The questions at the early childhood level totaled 38 items, at primary level 70

items and at secondary 67 items. The data were analyzed into frequencies and percentages.

### *Phase 2*

Writing the social skills stories was accomplished through action research consisting of four activities (i.e., planning, acting, observing, and reflecting). Persons involved in this phase of the research were 39 persons consisting of special education experts, as well as parents and teacher of autistic students. Reynhout and Carter (2006) reviewed 16 research studies and found 15 out of the 16 conveyed social stories by means of "reading" in which there was someone reading the stories to the students or the students reading the stories themselves. Only one story was read with accompanying music. For the present study, it was determined that the stories would be read to the students by teachers.

### *Phase 3*

The effects of the application of the social stories on a selected group of student participants were assessed using a single subject design with ABA multiple baseline across behaviors. Participants for this phase of the research comprised three autistic students with social skills problems, one from each developmental level (i.e., early childhood, primary and secondary). Participants were diagnosed by physicians and were able to communicate and attend full-time inclusive schools. Their parents gave consent for the children to participate in the research, the teachers cooperated, and the study was approved by the institution administrators. The tools included (a) nine social stories, with each selected student with autism receiving three social stories, and (b) the behavioral observation recording form. The reliability of the recording form was checked by two independent observers. The formula for interval agreement is  $A / (A + D) \times 100$  was used to calculate. The Interobserver Reliability (IOR) obtained was 1. Observational data on each student were collected in three stages: (a) pre-intervention (A1) to obtain the behavioral baseline, (b) intervention (B) to observe behavioral changes during the reading of social stories, and (c) end of intervention (A2) to observe behavioral changes when the reading or social stories was stopped. The data were analyzed into frequencies, percentages and averages.

## **Research findings**

### *Findings of Phase 1*

The study of problematic social skills was divided into 2 parts as follows:

In 2008, 145 students with autism were enrolled in regular schools and the Special Education Center 9, Khon Kaen. Most of them were boys (78.62%). The highest proportion (55.86%) was studying at the primary level, while the lowest proportion (7.59%) was at the secondary level. Most schools (48.97%) were affiliated with the Office of Basic Education. Findings related to gender distribution were consistent with previous findings, where the ratio of boys to girls with autism was reported as 4.5:1. (Trankasombat, 2002; Jennifer A. et al., 2004). In the present study the ratio of boys to girls was found to be 3.8:1. Results are summarized in Table 1.

Table 1 - Numbers and percentages of students with autism classified by basic information

Basic information		Number (n=145)	Percentages
<b>Sex</b>	Males	114	78.62
	Females	31	21.38
<b>Educational levels</b>	- Kindergarten 1-3	53	36.55
	- Primary (Grade 1-3)	50	34.48
	- Primary (Grade 4-6)	31	21.38
	- Secondary (Grade 7-9)	11	7.59
<b>School affiliations</b>	- Schools under the Office of Basic Education	71	48.97
	- Private schools	17	11.72
	- Municipal schools	11	7.59
	- Universities (Lab schools)	7	4.83
	- Special Education Center Area 9	39	26.89

Table 2 shows the ten most frequently observed problematic social skills behaviors reported by teachers using the observational; instrument from Phase 1 of the study. Behaviors are ranks from highest to lowest

Table 2 - The 10 most frequently observed problematic social skills behaviors of autistic students classified by educational levels (Note: Repeated numbers indicate the items are of equal percentage)

Early childhood	Primary	Secondary
1. Not sharing toys/ articles that they are interested in	1. Not able to play a role in a story with beginning, progression, and ending	1. Doing activities or playing alone during leisure time or at lunch time
2. Not asking permission when leaving the seat	2. Not able to play a role by imitating such as miming frying an egg on a toy frying pan	1. Watching others playing/ mocking each other without taking part
3. Taking others' articles without asking for permission	3. Not accepting losing	3. Showing sadness or frustration when others do not understand their needs
4. Not waiting for their turn when playing games/playthings on the playground	4. Negotiating when having to follow rules	4. Spending too much or too little time in doing each activity
5. Not communicating with others who come to speak with them	5. Overtaking the line /not waiting for their turn /not following steps	5. Sitting with a group without joining the activity
6. Not greeting or showing greetings to others	5. Not able to manage boredom, e.g. saying 'I'm bored' or 'I don't like this.'	5. Not introducing oneself to the others
6. Not looking at the other's face or eyes	5. Not making eye contacts	6. Not comforting friends who are sad

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7. Showing fear when joining activities that involve a lot of people	5. Having no relationships with children at the same age, not mixing with peers	7. Not playing with children of the same age
8. Not conforming to agreements of class/school	5. Playing alone, in different ways from surrounding students	7. Standing up and walking away from activities
9. Doing other things of interest while doing activities with friends	6. Not being able to be the first to act/ greet/ begin a conversation with others	7. Not stopping to do an activity at the agreed time

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*Findings of Phase 2 Writing social stories for each participant*

1. Planning

During this stage, group discussions with researchers, teachers and parents of children with autism were conducted to determine the target participants and the social stories that would be suitable for their problematic behaviors in inclusive classrooms. We all agreed that only one student with autism at each developmental level (i.e., kindergarten, primary, and secondary) would be selected. The problematic behaviors of each of the selected students were as follows:

<b>Early childhood</b>	<b>Primary</b>	<b>Secondary</b>
1. Self-control: rising and walking away without asking permission while the teacher was teaching	1. Waiting: overtaking in the line of students submitting assignments in all subjects	1. Sitting in a group without doing the activity
2 While the teacher was teaching, talking to a friend and repeating what he was interested in, making the friend deviate from the lesson	2. Conforming to classroom regulation: walking away from the class row while changing classrooms and going to the cafeteria	2. Spinning a notebook around during the lesson
3. While a friend was playing with a toy, taking the friend's toy without permission	3. Emotional exhibition: hitting a friend when the friend did not please him or something was not as expected, for example, when a friend asked him to play but the friend walked ahead or when a friend passed something such as a spoon or a book to another friend first	3. Playing with his fingers during the lesson

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## 2. Acting

The researchers selected social stories from the planning step for each child with autism to be studied. The researcher also gathered behavioral information from each child and tailored the stories to fit each participant. For example, stories may include use of the nicknames of the children to indicate their uniqueness and foster a sense of belonging in the stories. The pictures in each story were also drawn to look like the participant for whom it was intended and special care was given to assure a suitable contexts and situations within the stories.

## 3. Observing

The nine social stories, three for each participant, were examined and validated by five experts for content consistencies. The consistency indicator was calculated by means of an IOC (Index of Consistency) and the opinion averages were between 0.6 and 1.0.

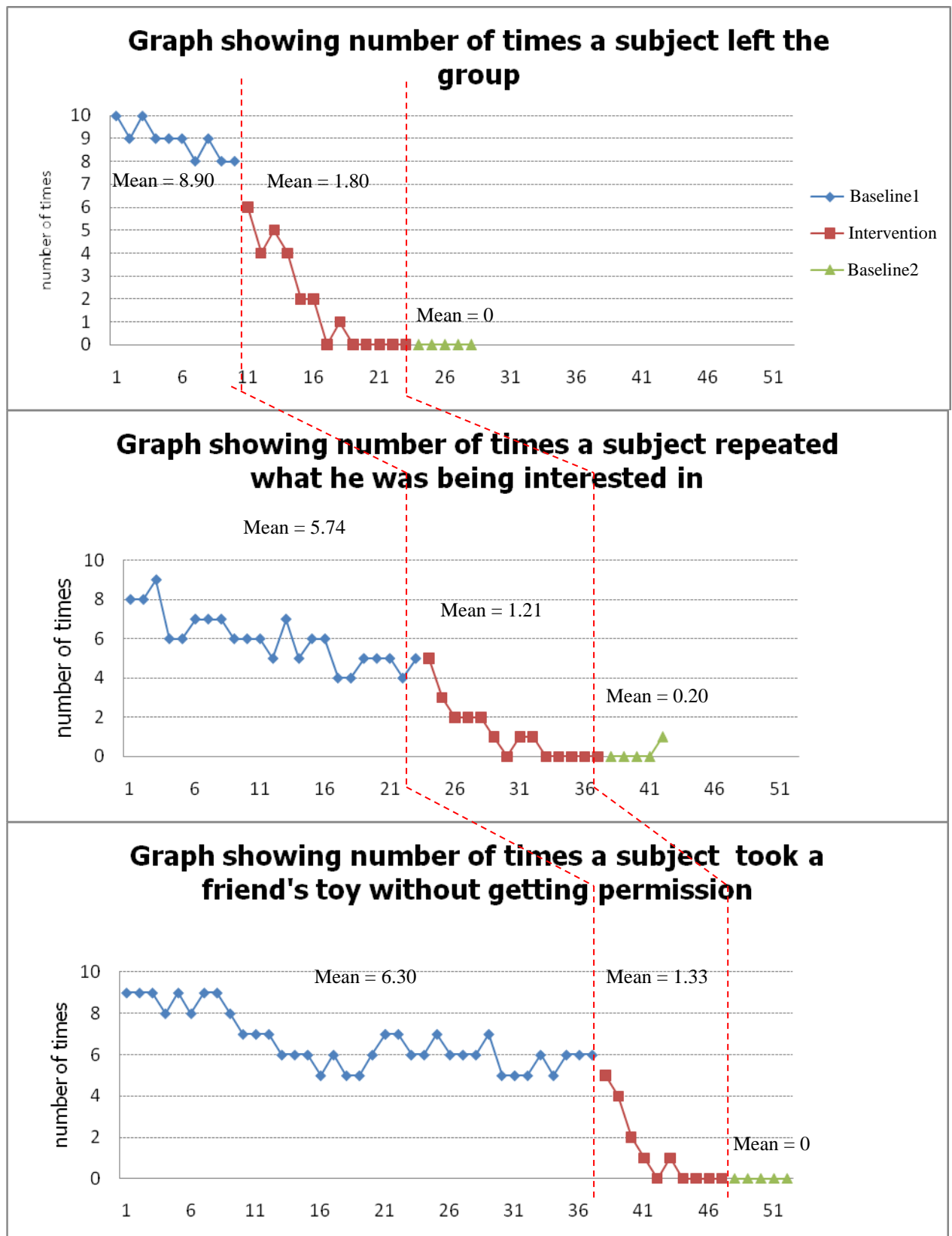
## 4. Reflecting

The experts, teachers and parents met with the researchers and used social story checklist as a guideline to consider and revise the nine social stories for individuals before presenting them to the three selected students in a real context.

### *Finding of Phase 3 – Effects of social stories application.*

#### 1. Early Childhood Level – Self control behaviors and conformation to class agreements

The study showed the participant's behavior of leaving the class during the lesson as follows: the behavior was at an average of 8.90 occurrences at the baseline stage (A1), an average of 1.80 occurrences at the action stage (B), and an average of 0.00 occurrences at the stopping stage (A2). The behavior of repeated talking about things of interest was at an average of 5.74 occurrences at the baseline stage (A1), an average of 1.21 occurrences at the action stage (B), and an average of 0.20 occurrences at the stopping stage (A2). The behavior of taking a friend's toy without getting permission was at an average of 6.30 occurrences at the baseline stage (A1), an average of 1.33 occurrences at the action stage (B), and an average of 0.00 occurrences at the stopping stage (A2). In short, there was a marked reduction for all target behaviors,. As shown in Figure 1.



## 2. Primary Level

The three problem behaviors for the primary-level participant were: overtaking other students to submit their work, walking away from the class line and emotional action like hitting a friend. Overtaking other students to submit an assignment had an average of 2.67 occurrences at the baseline stage (A1), an average of 0.71 occurrences at the action stage (B), and an average of 0.00 occurrences at the stopping stage (A2). Not conforming to class regulations (leaving the class line) had an average of 2.10 occurrences at the baseline stage (A1), an average of 0.30 occurrences at the action stage (B), and an average of 0.20 occurrences at the stopping stage (A2). Emotional action (hitting a friend) had an average of 0.87 occurrences at the baseline stage (A1), an average of 0.10 occurrences at the action stage (B), and an average of 0.00 occurrences at the stopping stage (A2). Results are presented in Figure 2.



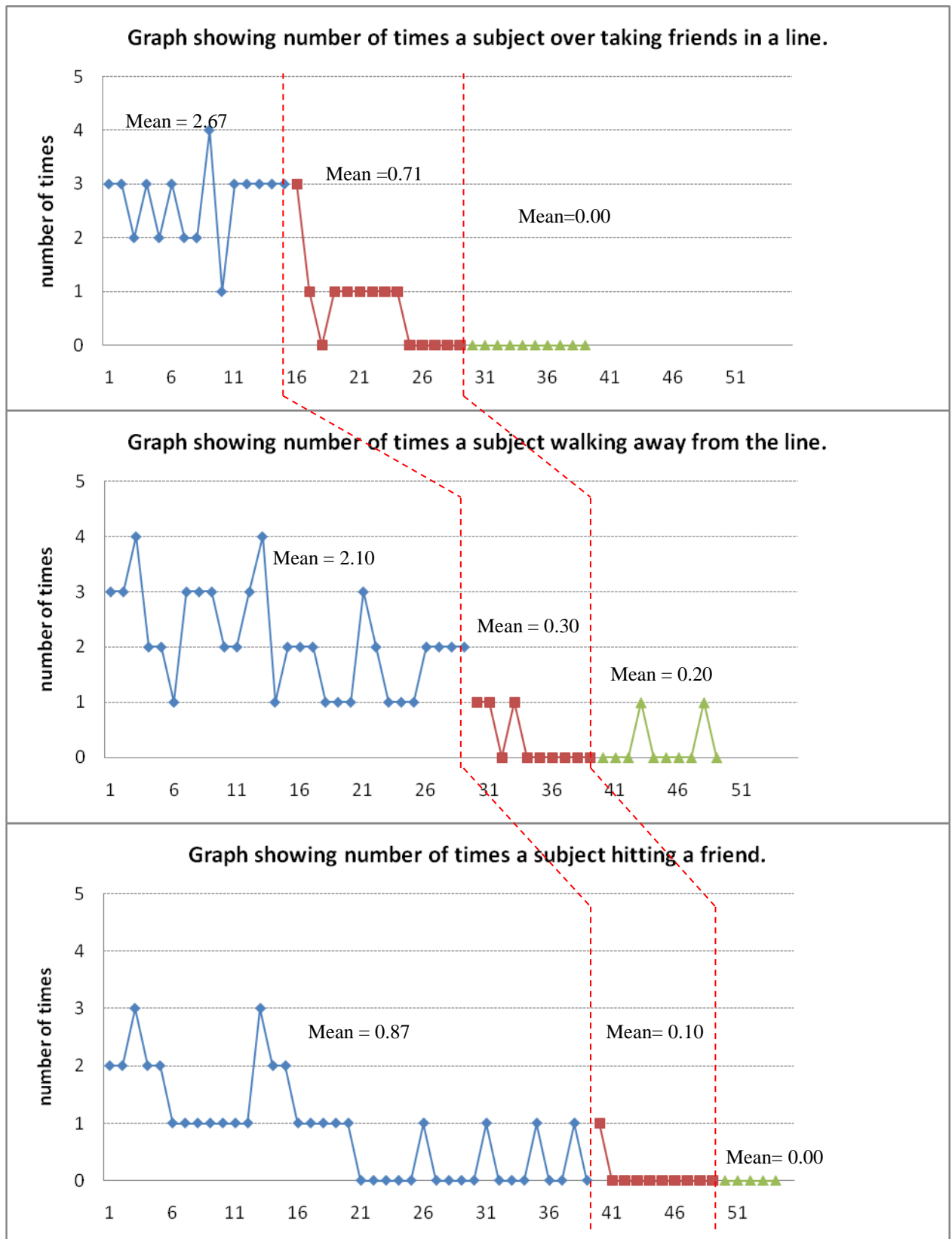


Figure 2 - Comparison of frequencies and averages of problematic behaviors of primary level subject

### 3. Secondary Level

The major problem behaviors for the secondary-level student occurred when the participant interacted with a group while doing experiments in science class. The participant would often walk away from the group, use his finger to spin a notebook, and play with his fingers. The first behavior (walking away) was, at an average of 3.75 occurrences at the baseline stage (A1), an average of 0.00 occurrences at the action stage (B), and an average of 0.09 occurrences at the stopping stage (A2). Spinning a notebook occurred an average of 3.12 times at the baseline stage (A1), an average of 0.20 times at the action stage (B1), and an average of 0.05 times at the stopping stage (A2). Playing with fingers was at an average of 7.50 occurrences at the baseline stage (A1), an average of 7.75 occurrences at the action stage (B1) Results are shown in Figure 3.

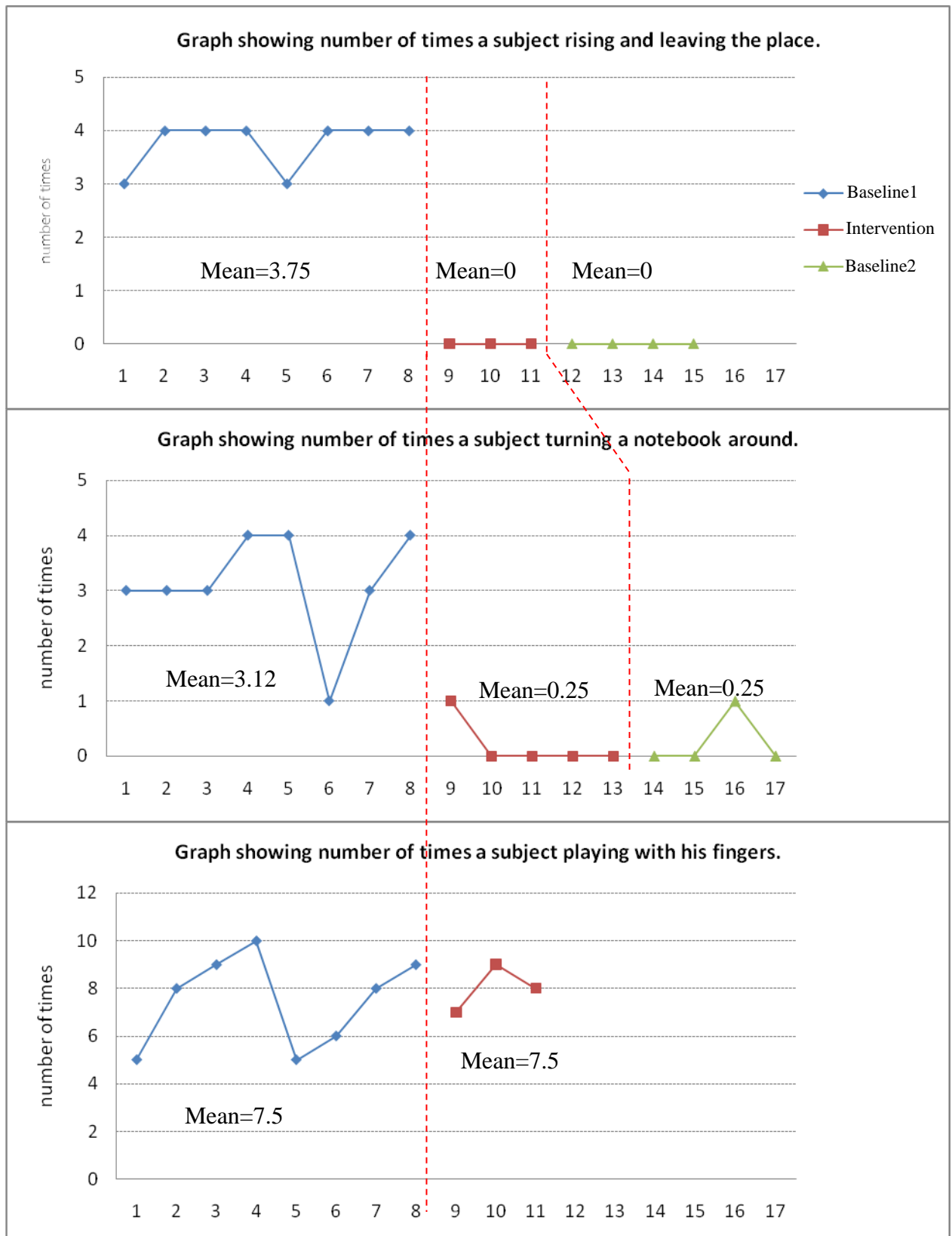


Figure 3 - Comparison of frequencies and averages of problematic behaviors of secondary level target students

## Conclusion and Discussion

The nature of autism – Findings regarding the prevalence of autism in male and female students in Khon Kaen Province were consistent with those from previous studies. For example, Trangkasombat (2002) and Jennifer A. et al. (2004) found autism more common among boys more than girls in the proportion of 4.5:1. In Khon Kaen Province, the study population was 145 persons with autism, the majority of whom were males (78.62%). The proportion of males to females was 3.7: 1. The 145 autistic students were mostly at the primary level of education (55.86%), whereas the least number was found at secondary school level (7.59%). It should be noted that in the past, autism was not known to all in many Thai schools and the diagnosis was not clear enough to allow precise identification. Autism used to be classified as one type of psychological disorder and the majority of parents decided to keep their child with autism at home or send them to a special school for disabled children. (The Ministry of Education, 2008). Changes in the manner in which autistic children are diagnosed and educated, then, provide a logical explanation for why the younger students appear in greater numbers than those at the secondary level.

Problematic social skills – The research findings identified the following social skills deficits, each of which hindered the learning and performance of children with autism in inclusive schools at all of the three levels. Firstly, **the self-control behavior** necessary in conforming to agreements or regulations in the classroom was lacking. For example, students with autism appeared not to realize that they sometimes had to wait. They often overtook the others in the line; did not ask for permission when leaving the seat; did not seem to know how to work as a team member; and frequently spoke or screamed while the teacher was teaching. Secondly, **the communications skills** need to interact with others were seldom present in autistic students. They never made eye contact with others, never greeted, never said thank you, and never seemed to understand people's emotions, thinking, or feeling. This made it difficult for them to create and maintain relationships with others. Finally, **working in a team** was nonexistent among the students studied. Students with autism were found not to accept losing. They appeared to not know how to join a peer group or how to act in a peer group. There was no evidence that they understand how to act in a role playing situation, and they frequently spent too much or too little time in an activity. These findings were consistent with those reported by Trangkasombat (2002), Jewpatanakul (2006), Myles & Simpson (2001), and Baker, (2004).

Writing social stories – It was found that the most important factors in producing a story that impacted the behavior of the autistic students were the type of sentences assembled and the proportion of the sentences that would make the stories appropriate to each individual child. The researchers concluded that effective stories should basically include descriptive, perspective, directive, and affirmative sentences (Gray 2000; cited in Sanratana, 2008).

Additionally, researchers concluded that the appropriate person to write social stories for each autistic child should be a person to whom they are close and who knows their individual problems. This would make the written stories more meaningful to the child and relate more closely to the child's environment.

Outcomes of social story application – In general, it was demonstrated that presentation of the stories resulted in improved social skills for each of the three

participants.. Following treatment, students were observed to ask for permission when leaving the seat, to decrease in their use of repetitious speech, to refrain from overtaking others in line, to conform more closely to classroom regulations, and to sit and work in a group for longer periods of time. One behavior, however, was not improved; playing with fingers, which is a self-encouraging behavior, did not show a discernable decrease.

The finding of the present study were consistent with those reported by Prasarn & Sanrattana (2008), who examined the process of writing social stories for grade four students with autism. That study showed that after continuous reading of social stories with accompanying pictures, the students with autism acted out the desired behaviors appropriately in the situations. These behaviors still persisted after the social stories were discontinued.

Kuttler and Myles (1998) concluded that the use of social stories is an efficient approach in the teaching of suitable social behaviors to autistic students. A detailed analysis of the present findings enabled the researchers to identify certain behaviors for which social stories can be appropriately used to teach social skills to students with autism ranging from moderately to high function at all age levels. Arayawindyoo (2003) has also reported that social stories can be used with other special need children with social skill deficiencies who need special treatment or interventions.

In the present study, the presentation of social stories was found to be a useful and effective approach to teach social skills to students with autism. The social stories utilized were individually tailored for each participant in an effort to take into consideration the student's environmental context, situations, and perspectives. Pictures or illustrations and sub-descriptions were included as judged appropriate by the story developers. Throughout the treatments phase of the study, the social stories were regularly read to students in a warm and friendly atmosphere. In general, it was found that presentation of the stories resulted in the improvement the autistic students' social behaviors and, at the same time, decreases problematic behaviors that were hindering learning in inclusive classroom. In addition, the students with autism and their friends in the class appeared to better understand the situations, to be more sensitive to others' emotions, and were able to conform to classroom regulations more appropriately. These outcomes were consistent with findings reported by Foowongsit (2003) reported that autistic students taught by means of social stories showed improved social skills in perceiving others' emotions. The findings were also consistent with those reported by Prasarn & Sanrattana (2008), who conducted a study on the process of writing social stories for grade 4 students with autism and found that, after continuous reading of illustrated social stories, the autistic participants performed the target behaviors appropriately to the situations and those behaviors persisted after the discontinuation of the presentation of the social stories.

## **Recommendations**

### *General Recommendations*

In preparing to present social stories to teach social skills to students with autism, researchers should observe the readiness and desire of the participants to listen and attend to each story. Children with autism can be readied by prompting before story reading so they become acquainted with the major aspects of the story. This prompting is especially important in the preparation of children at the early childhood level. The steps of reading must be explained to them every time a story is repeated and the reading time table should be followed strictly. The place where the story is read should

be quiet with not many people around and not close to a window or other areas where children with autism might become distracted.

In teaching social skills to students with autism in inclusive classrooms, the teacher can instruct autistic and non-autistic students together, a practice that may lead both to conform more readily to classroom regulations. The process may also give non-autistic students' greater understanding of the characteristics of students with autism and provide a better understanding of the purpose of social stories application.

#### *Recommendations for Further Research*

The results of social story usage with other types of special needs students should also be examined. For example, students with learning disabilities and those with attention-deficit disorders may profit from being presented with social stories centering on the acquisition of desired behaviors.

Comparative studies should be conducted on the efficiency and effectiveness of the use of different social stories, for example between drawing and photograph illustrations.

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