



Developing Skills of Obeying Classroom Rules for Children with Autism Spectrum Disorders Preparing to Inclusive Grade 1: Case Study Results

Thi-Phuong Mai^a and Thu-Giang Tran^{a*}

^a *The Vietnam National Institute of Educational Sciences, 101 Tran Hung Dao Street, Hoan Kiem District, Hanoi, Vietnam.*

Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

Article Information

DOI: 10.9734/AJESS/2022/v37i2799

Open Peer Review History:

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/95247>

Original Research Article

Received: 19/10/2022
Accepted: 26/12/2022
Published: 26/12/2022

ABSTRACT

Children with autism spectrum disorders have many defects, especially in the communication and social interaction, as well as stereotypes and rigidities in hobbies and activities. Therefore, this group of children has many difficulties when participating in the classroom and school environment, or they are even not accepted. Developing skills of obeying classroom rules has a significant role and meaning for children with autism spectrum disorders, especially in the preparation stage for Grade 1. The paper presents the results of organizing to develop skills of obeying classroom rules for two children with autism spectrum disorders in the pre-primary class. By using the behavioral principles of applied behavior analysis, visual supports, and Vietnamese music and poetry, both two children with autism spectrum disorders experienced significant progress in compliance with

*Corresponding author: Email: gjangtt@vnies.edu.vn;

classroom rules over a period of nearly four months attending the pre-primary class. The paper also suggests that it is necessary to implement it on many children with autism spectrum disorders and to have a longer experimental time to demonstrate the more obvious effectiveness of the applied measures.

Keywords: Autism spectrum disorders; classroom rules; grade 1; inclusive education.

1. INTRODUCTION

For individual children, changing school environments can place enormous pressure on the need to adapt quickly to a new environment, which can put a strain on a child's physical and mental health, and stress on the family [1,2]. For young students, the transition to primary school places demands on social-emotional skills, literacy, concentration and attention [3].

Starting school is an important event in any child's life, although it can be challenging for a child with a disability to make the transition. This is especially significant for children with autism spectrum disorders (ASD) [4]. The unique social, communication, and behavioral difficulties that children with ASD have will create additional barriers to a positive start in school [5]. This is particularly relevant to the fact that teachers will rate social skills as more important than academic skills to regulate success in kindergarten. There is growing evidence to support the view that children who have a positive start in school are more likely to participate and succeed academically and socially. Children with ASD are at high risk for low academic performance, including emotional and behavioral problems, and bullying that leads to expulsion or rejection from peers. It is therefore important that the protective factors, as well as the barriers to positive transition to school in children with ASD, are identified and understood [4].

The transition begins at kindergarten, whereby a child is prepared for primary school while assessing whether the child is "ready", described as "school readiness". Often, the focus is on children "gaining competence" in a range of areas: emotional, behavioral, social, and academic [4]. However, it is equally important that parents, schools and teachers prepare for the special needs of children with ASD. Therefore, it is necessary to identify the strengths and weaknesses of children with ASD before they start primary school, as well as get feedback from stakeholders. For this transition to be successful, interventions and supports need to go beyond the preparatory phase and continue

after the start of elementary school. Decades of research have demonstrated the positive effects of early intervention programs for children with ASD and also the success of later interventions for school-age children [4,6,7].

According to Nuske et al. (2019), children with ASD face many personal and interactive challenges that disrupt social adjustment and learning in new environments. Two overarching issues emerged: (1) the child's characteristics (mental health, sensory function, behavior, and adaptability) and (2) the child's interactions (peer friendships and social skills; communication; and the setting of daily physical, logistical, and structural environments) [7].

The transition program brings many benefits to the individuals involved, the most obvious of which are benefits for children and families [8]. For individual children with disabilities, being assessed, developed, and involved in a transition support program increases their readiness to engage effectively in higher learning. In other words, the transition program helps to equip children with the minimum basic skills and knowledge in a variety of fields to help them adapt and meet the diverse requirements of the school environment. In their research, Wei et al. (2016) have shown that children with ASD participating in transition programs have markedly improved in life skills and social communication skills, so children become more independent in interacting and taking care of themselves in the new learning environment [9]. LoCasale-Crouch et al. (2008) showed that, thanks to the transition program, psychological problems such as stress, anxiety, and fear with the new learning environment in children have been removed. Instead, children gain a greater understanding of learning, the necessity of following directions and following rules, or the importance of maintaining focus as they enter the new grade [10]. Combining the benefits from the above studies, it can be seen that children with disabilities in general and children with ASD, in particular, have more advantages when participating in a transition program before entering higher education.

Preparing preschool children for Grade 1 is all-round preparation, which is to prepare the premise and elements of learning activities so that they can adapt best and fastest to learning in Grade 1 [6,11,12]. Children need to be prepared for the following: physical preparation, mental preparation, cognitive development, and formation of necessary skills to help them adapt to the learning and living environment in primary school [3,4,13].

In this study, the skills of obeying classroom rules are considered a component of the group of social skills. Therefore, the paper reviewed several methods of social skills education for children with ASD. In order to educate social skills for children with ASD, there are many different methods. This paper focused on three methods: applied behavior analysis (ABA), visual supports, and music therapy.

In 1965, Ivar Lovass, a psychologist, and his colleagues first applied the ABA - applied behavioral analysis approach to children with ASD at the psychology department, the University of California. Lovass's idea is that through the ABA method, social skills and behaviors can be taught and practiced even for children with severe autism levels. The general and ultimate goal of this method is to help each child to shape basic skills. In the long term, children can live independently and succeed as much as possible [14]. The way to conduct this method is done through 3 steps, Step 1: Initial assessment to check which skills the child already has and which skills do not; Step 2: Select individual therapeutic goals based on initial assessment results; Step 3: Make a plan to implement each skill in all areas (self-care, awareness, communication, social, movement, play,...). These skills are often subdivided into component skills and arranged in order of development from simple to complex [15]. It can be said that the ABA method is one of the methods of educating children with ASD that has existed for a long time and has very high value. To date, its value has not decreased over time, and many methods and measures are now based on the principles of this method.

Visual supports are also a fairly effective measure of social skills intervention and social interaction for children with ASD [16,17]. Visual supports include activity schedules, picture books on social skills, picture boards and cards, power cards,... [14,16,17]. McClannahan and Krantz (1999) describe Activity Schedules as a set of images or words instructing a person to

engage in a sequence of activities. Visual supports can help children stay calm and independent throughout the day by providing a structured, arranged and pre-planned environment [18]. Visual supports are used to help children understand the sequence of events that will take place [19]. Using visual cues is an essential and indispensable requirement in the process of teaching children with ASD [16].

To educate skills for children with ASD, music therapy is also a very positive direction. According to research by Trevarthen (2002), music therapy can facilitate the mental functioning and learning of children with ASD by mobilizing and strengthening the weak ability in children's motivation coordination, not by providing cognitive stimulation or learning to recognize beats or practice communication through melody [20]. It is assumed that the child will be led to produce responses appropriate to the music at the time by echoing the beats and quality of other people's movements [21]. The author also came to the conclusion that the important role of music and sound, including speech, in the structure of the child's mind apparatus in the relationship between people and the world, thought and language. It can be imaged that music is so natural in man, so natural that it can be understood as a major part of being human. This is a gentle and effective treatment method for children with ASD. According to the authors of this approach, music therapy is appealing because it transcends language, which is a way into the emotional world that is so difficult for children with ASD. Music can enter the subconscious, the unconscious, without the child knowing it, with an attraction and penetration that the child cannot resist [22].

In Vietnam, researchers have also applied the above methods in educating children with ASD. Studying 13 publications that are scientific journals and proceedings of scientific conferences on special education with 75 articles, author N. T. A. Nguyen (2019) has compiled a list of the research team applying specialized methods for children with ASD accounted for 45.33%, of which the most presented method was about ABA (10.67%), visual supports (1.33%) and music therapy (2.67%) [23]. When studying the current situation of using music therapy for children with disabilities in Vietnam, T. H. Phan (2017) surveyed over 50 people working in the field of special education, the goal of using music

therapy to improve skills is 52% (3rd ranking) [24].

In this study, all three methods mentioned above were applied in teaching skills of obeying classroom rules for children with ASD preparing to inclusive Grade 1 to see if these methods can bring good educational effectiveness as expected and to what extent.

2. METHODS AND PROCEDURES

Experimental education on obeying classroom rules for children with ASD at a class preparing to inclusive Grade 1 at a center of early intervention in Hanoi, Vietnam.

Class duration: 3 sessions/week, 120 minutes/session.

Experimental period: May, June, July, and half of August 2022.

Case study: 02 children with ASD at levels of mild and moderate, ages of 5 - 7 years old.

Three methods of educating skills of obeying classroom rules were used, including the application of ABA principles, usage of visual supports, and usage of Vietnamese poetry and music.

2.1 Application of ABA principles

In this study, two behavioral principles were mainly used, positive reinforcement and negative reinforcement. Positive reinforcement demonstrates a positive outcome after the child has performed an appropriate behavior. Negative reinforcement involves removing something unpleasant or unlikable after the desired behavior is performed. In short, behavior reinforcement aims to increase the frequency of desired behavior in the future.

To use these two behavior principles, teachers first need to find out the motivation/reinforcement for each child. Based on the survey results, teachers will identify motivations that can be used as rewards for children. In addition, teachers can ask parents to add more to the list of children's motivation. To use these two principles effectively, teachers need to ensure the following factors:

Immediate: the reward must be applied immediately after the child performs the desired behavior.

Consistency: encourage desired behavior and reward only that behavior.

Level of reward: the reward should be large enough and strong enough for the child to perform the behavior.

Diversity: using one type of reward will make children bored, so it is necessary to reward a variety of different rewards.

Scarcity of rewards: don't let children get bored with rewards because of giving them too many treats (Gulick & Kitchen, 2007).

2.2 Usage of Visual Supports

Classroom-rule boards:

Classroom rules are built with pictures and include six rules: Keep quiet, Eyes look at the teacher, Ears listen, Hands on the table, Sit properly, and Raise a hand when wanting to speak. These rules help children control disciplined behavior and engage in more focused learning and playing activities.

Teachers introduce the classroom-rule board at the beginning of the lessons, after the class is settled. Initially, the teacher will introduce to the whole class the meaning of each picture, then children will repeat themselves individually or as a whole class. In the process of teaching and learning, teachers will always use these boards to remind children. For example, if there are children lying on the table, the teacher will point to the picture "Sit properly". These boards will be placed in a position where all children can clearly see and be used throughout the entire period in the pre-primary classroom in situations where children are not sitting well, leaving their seats, talking freely, playing with utensils,...

Picture schedules:

A picture schedule is the activities that take place in a class, arranged in order from the first lesson to the last. Thanks to the visual schedules, children will know the schedule of what they will do and when they will end a pre-primary class session.

At the beginning of each session, on the first days of class, teachers will introduce children to the activities in which they will take turns to participate. After children are familiar with the pictures of activities, teachers will let children choose a few activities for the day. Then, each child, in turn, will repeat the activities of that

session. At the end of an activity, teachers will remove the picture and put it away so that children know that they have completed and moved on to the next activity. When transitioning activities, teachers will invite 1-2 children to talk about the next activity so that the whole class will pay attention and know what they will participate in next. At the end of the lesson, there will be no pictures left on the location for the picture schedule.

2.3 Usage of Vietnamese Poetry and Music

The concept of Vietnamese poetry and music in this study is understood as Vietnamese poems and songs composed by Vietnamese authors in the Vietnamese language. These works are selected to educate school skills for children with ASD, organized in the pre-primary class as an educational activity, and at the same time have the educational effect of obeying classroom rules for children with ASD through learning and practicing the songs/poems (Mai & Tran, 2019).

The steps to implement the skills education of obeying classroom rules for children with ASD are as follows:

Step 1: Selecting songs and poems.

Vietnamese poetry and music have many different genres; however, to match the recognition ability of children with ASD, there are several selection criteria:

Poetry/ music for young children;

The content of the poem/song is about the skills of obeying classroom rules;

The content of the poem/song must be short, simple, and easy to understand. If the poem/song has many parts, only choose the part that has the content about skills of obeying classroom rules.

Step 2: Guiding children to read poems/songs and learn the contents of poems/songs

When organizing lessons, teachers will use the following techniques:

Using visual supports: illustrations for poems/songs or models for children to easily understand the lesson's contents.

Finding keywords: helping children easily recognize the core content (the school skills to learn) in the song/poem.

Designing selected questions.

Step 3: Practicing skills

Teachers will let children practice skills that they have learned through poems/songs.

3. RESULTS AND DISCUSSION

3.1 Case 1

The child's name is T.T. He is the only son in the family. The course of pregnancy is not unusual. He was born with 3.2kg. After birth, his health is normal. At about 24 months old, the family found that the child still did not speak, and had many strange behaviors, such as calling not to return, walking on tiptoe, not being interested in playing with his parents, or crying for no reason.

T.T. entered the assessment room, was very interested in the letters, and did not care if anyone else was in the room. The mother left the room, but the child did not care, he still focused on putting the alphabet in the correct order. During the assessment, he often said meaningless words, sometimes in English, did not observe imitations, and liked to do as he pleased. While performing the examiner's request, he suddenly cried and then stopped, then ran over to sit on the examiner's lap, hugged her, and cried. After that, he continued to fulfill the examiner's requests after being reassured.

Out of 11 skills, T.T. has two skills that have achieved level 2 (perform skills independently), Dressing neatly and Going to class on time. There are two skills that he still needs supports: Raising a hand when wanting to answer, and No speaking freely in class. Because he is not active, he still has to be reminded, or the teacher calls to ask for an answer, then he can stand up and answer. He had a problem that was constantly saying meaningless "uhm, uhm, uhm" in his mouth. When he first joined the class, he said these nonsense sounds continuously, but after more than two months, they began to decrease gradually. By August 2022, the frequency of saying nonsense words has reduced significantly. The child may have this behavior because the child likes to hear that sound, or sometimes due to the change in the weather, the child will appear more meaningless speech behavior than usual.

Table 1. Summary of assessment results of obeying classroom rules of T.T. before and after nearly four months of attending the pre-primary class

No.	Skills	Pre-test			Post-test		
		0	1	2	0	1	2
1	Lining up for class	x					x
2	Wearing neat clothes			x			x
3	Going to the toilet, throwing garbage in the right place		x				x
4	Going to class on time			x			x
5	Sitting properly and not moving from the seat	x					x
6	Sitting in the right position		x				x
7	Raising a hand when wanting to answer	x				x	
8	Standing up when answering and sitting down after answering	x					x
9	No speaking freely/ Keeping silent	x				x	
10	Paying attention when the teacher speaking	x					x
11	Completing assignments given in class		x				x

Note: Score 0 - No performing; Score 1 - Performing with supports; Score 2 - Performing independently

There are four skills that T.T. has made great progress on, from no implementing to achieving independent performance, including Lining up for class, Sitting properly and not moving from the seat, Standing up when answering and sitting down after answering, and Paying attention when the teacher speaking. With the skill of lining up for class, when he first joined the class, he often ran out of line. He needed a teacher to stand next to him to help him stand in the correct position of the number printed on the floor and hold his hand to put his hand on his classmate's shoulder. But as soon as the teacher let go of his hand, he slid his hand down and squirmed to avoid letting the classmate behind him put a hand on his shoulder. By the third month, he began to actively follow the instructions of the teacher to line up for class.

With the skill of sitting properly and not moving from the seat, at first, T.T. usually lay down on the table, moved the seat away or closed from the tablemate. After more than two months, he began to perform skills better and needed fewer teacher reminders. With the skills of standing up to answer questions, at first, even though there was a teacher to help T.T. him up, he still slid down on the chair and definitely did not cooperate with the teacher's request. Thus, after nearly four months of attending the pre-primary class, T.T has made much progress compared to the beginning: 07/11 skills have reached level 2 (perform skills independently) except for two skills that have been achieved from the beginning, 02/11 skills reached level 1 (perform with supports).

3.2 Case 2

The child's name is M.T. He is the second child in the family. The mother's pregnancy and postpartum process are not unusual. He was born with a weight of 3.9kg. According to the information provided by the family, before the age of two years old, he developed normally. Around 2-3 years old, the family saw the child showing signs of crying, yelling, and hitting friends, so he was assessed at the National Hospital of Pediatrics. It was concluded that he had autism, attention deficit - hyperactivity disorder, and language disorder. He can read short story books in English and Vietnamese but has not been able to understand the content of the story.

During the assessment session, M.T. showed cooperation with the examiner and tried to perform the required tasks, but showed decreased concentration, easily distracted by factors of the surrounding environment. For example, toys and story books stacked on shelves around the room, facing the window,...

M.T. has a milder autism level than T.T. Most of the initial assessment skills that he was at the level of performing skills with supports. There are 01/11 skills that he achieved independent performance level, wearing neat clothes. There are 03/11 skills that he could not do, Sitting properly and not moving from the seat, Sitting in the right position, and Raising a hand when wanting to answer.

Table 2. Summary of assessment results of obeying classroom rules of M.T. before and after nearly four months of attending the pre-primary class

No.	Skills	Pre-test			Post-test		
		0	1	2	0	1	2
1	Lining up for class		x				x
2	Wearing neat clothes			x			x
3	Going to the toilet, throwing garbage in the right place		x				x
4	Going to class on time		x				x
5	Sitting properly and not moving from the seat	x					x
6	Sitting in the right position	x				x	
7	Raising a hand when wanting to answer	x					x
8	Standing up when answering and sitting down after answering		x				x
9	No speaking freely/ Keeping silent		x				x
10	Paying attention when the teacher speaking		x			x	
11	Completing assignments given in class		x				x

Note: Score 0 - No performing; Score 1 - Performing with supports; Score 2 - Performing independently

At first, M.T. often sat down on the ground in the position between the desk and the wall, lying on the table, or sometimes he liked to sit close to his tablemate. He did not cooperate with teachers in activities if being reminded at the beginning of class time or teachers did not allow him to do as he liked. He was very spontaneous and according to personal feelings. After more than a month of attending the pre-primary class, with an understanding of his interests, teachers used "positive reinforcement" to encourage M.T. to implement rules of sitting in the right position by using the classroom-rule board. He has started cooperating more happily with the teacher and participating in class activities better. However, the skill of sitting in the right position seems to be a bit difficult for M.T. because he often likes to sit close to the tablemate. After nearly four months, the skill of sitting in the right position is still at a level that needs support because the teacher still has to remind. Most of the skills that he reached the independent level; however, the skill of paying attention when the teacher speaking still requires a lot of support because he often looks at the ceiling or plays with his fingers.

4. CONCLUSIONS

To create favorable conditions for children with autism to enter inclusive Grade 1, it is necessary to prepare many factors, including academic and school skills. One of the first skills that children with ASD need to be educated is the group of skills of obeying classroom rules. In this study, three specific methods for children with ASD were used, including applied behavior analysis, visual supports, and music therapy, the result shows that both two children with ASD in the

experimental study have made progress at different levels. Besides applying the above three methods, other forms of organizing and methods of teaching were also involved, such as occupation therapy, modeling combined with speech, building a good relationship between teachers and children, children and children,... It is necessary to use a variety of different forms and methods to educate children with ASD. Primarily, it is needed to prepare children with ASD to enter inclusive Grade 1 well to help them adapt better to general school environment. Although the study showed improvement in two children with mild and moderate ASD, in the future, researchers should carry out studies on larger samples with longer duration to confirm the effectiveness of these methods.

CONSENT

As per international standard or university standard, Parental written consent has been collected and preserved by the author(s).

ACKNOWLEDGEMENTS

The paper is the product of the ministry-level Scientific & Technology project on the topic "Developing a framework of pre-primary programs for children with autism spectrum disorders preparing for inclusive Grade 1 in Vietnam", project code: B2021-VKG-03.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Broström S. Communication and continuity in the transition from kindergarten to school, *Transitions in the early years*, England: Routledge. 2002;76-87.
2. Margetts K. Transition to school: Looking forward., AECA National Conference. 1999;14-17.
3. O'Kane M, Hayes N. The transition from preschool to school for children in Ireland: Teachers views, *An Leanbh Óg*. 2007;1(1):125-149.
4. Marsh A, Spagnol V, Grove R, Eapen V. Transition to school for children with autism spectrum disorder: A systematic review, *World Journal of Psychiatry*. 2017;7(3):184.
5. Starr EM, Martini TS, Kuo BC. Transition to kindergarten for children with autism spectrum disorder: A focus group study with ethnically diverse parents, teachers, and early intervention service providers, *Focus on Autism and Other Developmental Disabilities*. 2016;31(2): 115-128.
6. Dunlop AW, Fabian H. *Transitions in the early years: Debating continuity and progression for children in early education*: Routledge; 2002.
7. HJ Nuske, McGhee Hassrick E, Bronstein B, Hauptman L, Aponete C, Levato L, Stahmer A, Mandell DS, Mundy P, Kasari C. Broken bridges-new school transitions for students with autism spectrum disorder: A systematic review on difficulties and strategies for success, *Autism*. 2019;23(2): 306-325.
8. Visković I. Transition processes from kindergarten to primary school, *Croatian Journal of Education: Hrvatski Časopis Za Odgoj i Obrazovanje*. 2018;20(3): 51-75.
9. Wei X, Wagner M, Hudson L, JW Yu, Javitz H. The effect of transition planning participation and goal-setting on college enrollment among youth with autism spectrum disorders," *Remedial and Special Education*. 2016;37(1):3-14.
10. LoCasale-Crouch J, Mashburn AJ, Downer JT, Pianta RC. Pre-kindergarten teachers' use of transition practices and children's adjustment to kindergarten, *Early Childhood Research Quarterly*. 2008; 23(1):124-139.
11. Hirst M, Jervis N, Visagie K, Sojo V, Cavanagh S. *Transition to primary school: A review of the literature*: Canberra: Commonwealth of Australia; 2011.
12. Larcombe TJ, Joosten AV, Cordier R, Vaz S. Preparing children with autism for transition to mainstream school and perspectives on supporting positive school experiences, *Journal of Autism and Developmental Disorders*. 2019;49(8): 3073-3088.
13. Fontil L, Sladeczek IE, Gittens J, Kubishyn N, Habib K. From early intervention to elementary school: A survey of transition support practices for children with autism spectrum disorders, *Research in Developmental Disabilities*. 2019;88: 30-41.
14. Nguyen THY, *Self-centeredness - Recent issues of theory and practice*, Hanoi: National University of Education Press; 2013.
15. Harris SL, Delmolino L. *Applied behavior analysis: Its application in the treatment of autism and related disorders in young children*, *Infants & Young Children*. 2002;14(3):11-17.
16. Cohen MJ, Gerhardt PT. *Visual supports for people with autism: A guide for parents and professionals*, Toronto, ON: Woodbine House; 2016.
17. Nguyen TKA. *Social skills education for children with non-disordered autism*, HCMC: HCMC University of Education Press; 2016.
18. McClannahan LE, Krantz PJ. *Activity schedules for children with autism: Teaching independent behavior*: Woodbine House; 1999.
19. de Boer SR, Griswold DE, Myles BS, Byrd SE, Ganz JB, Cook KT, Otten K, Ben-Arieh J, Kline SA, Adams LG. *Autism spectrum disorders: Interventions and Treatments for Children and Youth*: Corwin Press; 2004.
20. Trevarthen C. Autism, sympathy of motives and music therapy, *Enfance*. 2002;54(1): 86-99.
21. Dodd S. *Understanding autism*: Elsevier Australia; 2005.
22. Thompson T. Autism research and services for young children: History, progress and challenges, *Journal of Applied Research in Intellectual Disabilities*. 2013;26(2):81-107.

23. Nguyen NTA. Overall research on therapy methods in the education of children with self-disorder disorders in Vietnam, Journal of Science - Hanoi National University of Education. 2019;64(9AB):96-106.
24. Phan TH, Music therapy for children with disabilities from theory to practice, in Conference Proceedings: Music therapy for children with disabilities in training teachers, Hanoi. 2019;27-38.

© 2022 Mai and Tran; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:

The peer review history for this paper can be accessed here:
<https://www.sdiarticle5.com/review-history/95247>