Impact of Teaching Conversation Skills to a Child with Autism at a Therapy Center in Dubai– Case Study.

تأثير تعليم مهارات المحادثة لطفل يعاني من التوحد في مركز علاج في دبي - دراسة حالة.

by

VANI KUMAR

Dissertation submitted in partial fulfillment

of the requirements for the degree of

MASTER OF EDUCATION

at

The British University in Dubai

October 2023

DECLARATION

I warrant that the content of this research is the direct result of my own work and that any use made in it of published or unpublished copyright material falls within the limits permitted by international copyright conventions.

I understand that a copy of my research will be deposited in the University Library for permanent retention.

I hereby agree that the contents of this dissertation for which I am author and copyright holder may be copied and distributed by The British University in Dubai for the purposes of research, private study or education and that The British University in Dubai may recover from purchasers the costs incurred in such copying and distribution, where appropriate.

I understand that The British University in Dubai may make a digital copy available in the institutional repository.

I understand that I may apply to the University to retain the right to withhold or to restrict access to my thesis for a period which shall not normally exceed four calendar years from the congregation at which the degree is conferred, the length of the period to be specified in the application, together with the precise reasons for making that application.

_____

Signature of the student

COPYRIGHT AND INFORMATION TO USERS

The author whose copyright is declared on the title page of the work has granted to the British University in Dubai the right to lend his/her research work to users of its library and as an open source and to make partial or single copies for educational and research use.

The author has also granted permission to the University to keep or make a digital copy for similar use and for the purpose of preservation of the work digitally.

Multiple copying of this work for scholarly purposes may be granted by either the author, the Registrar or the Dean only.

Copying for financial gain shall only be allowed with the author's express permission.

Any use of this work in whole or in part shall respect the moral rights of the author to be acknowledged and to reflect in good faith and without detriment the meaning of the content, and the original authorship.

ABSTRACT

Conversational deficiencies are frequently seen in people with developmental disorders, such as autism spectrum disorder. To teach conversational skills, we employed behavioral skill training. We planned for generalization in the untrained home context with peers and utilized a script-fading package to educate a child with autism to begin social contact across varied activities in the school setting. It was noted that social initiations gradually rose once the script-fading package was introduced. Also, the impacts of the script-fading package extended to peers, parents, caregivers, and an unskilled home environment. By illustrating the transfer of social initiations from the school context with peers to the home environment with siblings, this study builds on earlier studies. This study examines how conversation skills can be taught using scripts and fading the same. The researcher conducted the study with the help of questionnaires, semi-structured interviews, and direct observation. The script fading technique helped to increase conversation and social skills, however, the generalization of these skills was not attained.

Keywords: autism, Dubai, teaching conversation and social skills

خلاصة

.تأثير تعليم مهارات المحادثة لطفل يعاني من التوحد في مركز علاج في دبي - دراسة حالة

ملخص: غالبًا ما يُلاحظ نقص المهارات الحوارية لدى الأشخاص الذين يعانون من اضطرابات التنمية مثل اضطراب طيف التوحد. لتعليم مهارات المحادثة، قمنا باستخدام تدريب المهارات السلوكية. خططنا لتحقيق تعميم ذلك في سياق المنزل غير المتدرب مع الأقران واستخدمنا مجموعة متلاشية النص لتعليم طفل يعاني من التوحد لبدء التواصل الاجتماعي عبر أنشطة متنوعة في إعداد المدرسة. لوُجِد أن البدء الاجتماعي ارتفع تدريجيًا بعد تقديم مجموعة متلاشية النص. أيضًا، تمتد آثار مجموعة متلاشية النص إلى الأقران والوالدين ومقدمي الرعاية والبيئة المنزلية غير المتخصصة. من خلال توضيح نقل البدء الاجتماعي من سياق المدرسة مع الأقران إلى بيئة المنزل مع الأشقاء، تعزز هذه الدراسة الدراسات السابقة. تناقش هذه الدراسة كيف يمكن تعليم مهارات المحادثة باستخدام النصوص وتلاشيها. قام الباحث بإجراء الدراسة بمساعدة الاستبيانات والمقابلات شبه المهيكلة والملاحظة المباشرة. تساعد تقنية تلاشي النص في زيادة مهارات .المحادثة والمهارات الاجتماعية، ومع ذلك، لم يتم تحقيق تعميم هذه المهارات

.كلمات مفتاحية: التوحد، دبي، تعليم المحادثة والمهارات الاجتماعية

ACKNOWLEDGEMENTS

My deepest thanks goes out to everyone who helped my dissertation come to fruition and supported it in whatever way.

My supervisor, Prof. Eman Gaad, has been a tremendous help to me and I am very appreciative of her advice and constant support. Her advice and insight have been quite helpful.

I would like to express my gratitude to every member of the dissertation committee for their insightful comments and careful reading of my work.

For providing the tools and assistance that were required for this research, I would like to thank the BUID professors and staff.

I am appreciative to the participants who gave freely of their time and knowledge to further our study.

For their inspiration and support, I sincerely thank my family, friends, and loved ones.

TABLE OF CONTENTS

Chapter 1: Introduction 1

1.1 Incidence and Diagnosis: 1

1.2 Characters and Challenges: 3

1.3 Causes and Contributing Factors: 3

1.4 Communication and Conversation Skills in Autism: 5

1.5 Significance of the Study: 5

1.6 Rationale: 7

1.7 Research Question: 7

Chapter 2: Literature Review 8

2.1 Autism: 8

2.2 Perception by Physicians: 8

2.3 Perception by Psychologists: 9

2.4 Theory of Mind: 10

2.5 Teaching Conversation and Social Skills: 11

2.6 Script Fading for Children with Autism to Teach Conversation Skills: 14

2.7 Teaching Conversation and Communication Skills in UAE: 19

Chapter 3: Methodology 22

3.1 Participant Details: 24

3.2 Ethics: 26

3.3 Data Collection: 27

3.4 General Method for Intervention: 31

Chapter 4: Results 33

4.1 Results of Questionnaires: 33

4.2 Results of Semi-Structured Interviews: 39

4.3 Results of Observation: 42

4.4 Analysis and Discussion: 45

4.5 Discussion: 48

4.6 Limitations: 52

Chapter 5: Conclusion 55

5.1 Future Research: 58

5.2 Recommendation for Further Studies: 58

References 60

Appendix 65

Population 69

Sampling Size 69

Sampling Technique 69

Collection of Data 69

Data Analysis 69

LIST OF TABLES

Table 1: Methods for Data Collection 23

Table 2: Data for Initiating Conversation 43

Table 3: Data for Staying on Topic 44

Table 4: Data for Talking About Interests 45

LIST OF FIGURES

Figure 1: Body Language 34

Figure 2: Taking turns 34

Figure 3: Talking about interests 35

Figure 4: Giving and receiving compliments. 36

Figure 5: Initiation of greeting. 36

Figure 6: Taking turns 37

Figure 7: Talking appropriately 38

Figure 8: Giving compliments. 38

Chapter 1: Introduction

Autism is a neurodevelopmental disorder affecting individuals all over the world. It is detected during early childhood. Affected individuals present with a wide range of challenges which are mainly delayed language, poor communication and social skills, and repetitive behaviors[EG1] [VK2] (Autism Speaks, 2019). ASD is a disorder with diverse abilities and experiences with a wide range of strengths and weaknesses. It is a lifelong condition, requiring support of some kind. The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) defines ASD as a neurodevelopmental disorder, which is seen to have significant deficits in social skills, communication, and interaction with people, as well as restricted, repetitive patterns of behavior and limited interests, or activities. However, autism is a spectrum, meaning that individuals can experience a broad range of differences or variations in their abilities and challenges.

1.1 Incidence and Diagnosis:

The incidence of Autism in the United States is about 1 in 36 births (Centers for Disease Control and Prevention, 2021). The incidence of Autism has increased by 119% over the past years. According to data shared by the Ministry of Community Development in UAE, the incidence of Autism is 1 in 89 births (Virolainen, Hussien, and Dalibalta, 2020). Autism is found to affect more boys than girls. It can be seen in individuals of all races, ethnicities, and also individuals coming from different socioeconomic backgrounds. Most children present with delayed speech, absent or poor social skills and communication, and interest in limited activities. The symptoms could, however, vary from individual to

individual. Research shows that boys, siblings of children with autism, and people with other developmental disorders like Fragile X syndrome have a higher risk of being on the spectrum (Lord et al., 2018). Diagnosing autism is usually through a detailed assessment done by a team of professionals, involving psychologists, speech and language therapists, and pediatricians.

ASD occurs due to early altered brain development and neural reorganization, but since there are no reliable biomarkers, the diagnosis is based on behavior and observations. Therefore the diagnosis of autism can be done through a multidisciplinary approach. The available tools for screening are as follows:

1. The Autism Diagnostic Observation Schedule (ADOS-G): This is a 45-minute observational test to check for delayed social and communication behaviors. Usually used in infants 12 months and older

2. The Autism Diagnosis Interview-Revised (ADI-R): This is an interview-based assessment that assesses the child's communication and social skills.

3. Childhood Autism Rating Scale (CARS): This is an observational test to determine the severity of autism. This uses a 15-point scale to evaluate the child's verbal communication abilities, listening skills, body use, and social relationships.

4. The Autism Screening Questionnaire: This is a 40-question scale used in children 4 and older to assess social and communication abilities.

1.2 Characters and Challenges:

According to the American Psychologists Association, children with autism usually meet the following criteria (Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition -DSM-IV):

-Social impairments

-Communication impairments

- Repetitive behaviors

Individuals with autism exhibit a diverse range of characteristics. Social communication difficulties, such as challenges in understanding non-verbal cues, maintaining eye contact, and engaging in reciprocal conversations, are the most common. Sensory sensitivities, including hypersensitivity or hyposensitivity to light, sound, touch, or smell, can also affect individuals with autism. Repetitive behaviors, such as rocking, hand-flapping, or strict adherence to routines, provide comfort and stability are the behaviors observed. Some individuals may display highly focused interests in specific topics.

1.3 Causes and Contributing Factors:

There is no single cause for autism. It is seen that autism occurs due to multifactorial causes. Both genetic and environmental factors are believed to be involved. While specific genes have not been identified as contributing to autism risk, research shows genetics alone do not determine its development. Environmental factors, such as prenatal exposure to certain

medications or toxins, premature birth, and maternal health conditions, have also been associated with an increased risk of autism (Lord et al., 2018).

Theory of mind: Among the many theories trying to explain the social and communication differences between neurotypical peers and individuals on the spectrum, is the 'Theory of mind (ToM). This theory was proposed by Dr. Simon Baron-Cohen of Cambridge University. Theory of mind is the innate ability to understand another person's perspective, thoughts, and emotions. It also refers to the potential to attribute mental states, like beliefs, ideas, likes, and dislikes to oneself and others. This is very important for appropriate social interactions and communication. In the context of autism, the Theory of Mind is an area of immense interest for research due to the unique social cognitive differences faced by individuals on the autism spectrum. It is suggested that autistic individuals find reasoning, understanding pretense, joint attention, and pragmatics very demanding in comparison with neurotypical peers (Hutchins et al. 2015). Individuals with autism encounter mild to severe deficits in the theory of mind. This deficit caused difficulty in understanding others' perspectives, maintaining relationships, initiating conversations, and understanding social or non-verbal cues, such as gestures, body language, and tone of voice. This in turn causes social isolation, anxiety, or misunderstandings which make it difficult for autistic individuals to navigate social situations. Identifying these challenges is an essential part of intervention. Individuals with autism can be trained in the area of social skills with specific programs that can focus on explicitly teaching individuals with autism about others' feelings, perspectives, and social cues. This can be done with the use of visual aids, social stories, role-playing, and well-planned social interactions to enhance their understanding.

1.4 Communication and Conversation Skills in Autism:

Communication and conversation skills are an essential part of social interactions and are needed to express one's needs and feelings. As discussed, individuals with autism lack this skill. They have deficits in pragmatic language skills and also fail to understand nonverbal cues. They have difficulty communicating and understanding what others say. Some individuals with autism have good vocabulary and can talk about various topics in detail but are poor at maintaining a conversation.

Teaching conversation and communication skills to children with ASD is an important part of helping them to be inclusive and get better at socializing. Several effective programs have been used. Studies show that early intervention and a well-structured program to suit the needs of the child are very beneficial (nidcd.nih.gov, n.d.). Interventions have to take into consideration the behavioral challenges that the children face. It is also important to involve parents and caregivers and use a good amount of positive reinforcement. In the case of older children with autism, communication training could involve teaching the use of short phrases and words. With advanced learners, training could be to hold a conversation, stay on topic, and take turns.

1.5 Significance of the Study:

Researchers have tried several methods to teach conversation skills to individuals with ASD. Interventions have included behavior skills training, video modeling, the use of script fading (text), and self-monitoring to name a few. Incidental teaching strategies may ensure generalization but may limit the frequency of opportunities if the child is not motivated to

initiate conversation. Teaching methods focusing on using adult prompters can lead to dependency on verbal prompts, atypical peer interaction or conversation, and limited conversation once the adult prompter is removed (Krantz&McClannahan, 1993). Contrary to this, it is seen that script and script fading techniques used to teach conversation reduce the dependency on prompts, allow better social interaction, and can be used to teach turn-taking and reciprocating conversation (Cowan& Allen,2007; Stevenson et al.,2000). Script and script-fading techniques have been used to teach language to children with ASD who are non-readers, beginning readers, and advanced readers (Stevenson et al., 2000). Studies have also been conducted to investigate the effectiveness of audio script and script fading in teaching conversation skills to children with ASD. More recent studies have also used assistive technologies or devices to teach conversation skills in the UAE (Heba Mohammad, Fadi Abu-Amara 2019) However more research is required in this area to evaluate the effectiveness of this method.

The purpose of this case study was to evaluate the effectiveness of teaching conversation skills to a 10-year-old boy with ASD, in a therapy center in Dubai. The student was taught conversation skills using script and script fading techniques. He was assessed for generalization and to see if he developed novel phrases in his conversation. Additionally, he was assessed to check if this language was used with peers once the script was faded. The student's parent, teacher, and caregiver were interviewed using semi-structured interviews and a questionnaire to evaluate the benefit of using the script fading technique to teach conversation. The student was on the intervention for a duration of 6 months, a baseline interview and a post-intervention interview were conducted to evaluate his progress.

1.6 Rationale:

Children with ASD are trained to use assistive technologies for communication, which they learn to use with ease. It is seen that many children have language deficits due to a lack of theory of mind and language skills training is done using several methods. Script and script fading methods have been shown to be very beneficial in earlier conducted studies. It helps the generalization of skills, generates novel phrases to help peer interaction, and is also a more natural form of having a conversation, especially in the case of older children.

1.7 Research Question:

This case study was conducted to evaluate:

a) To what extent the conversation skills delivered at a center in Dubai are effective?

b) Does this conversation skill help in improving social skills for children with autism?

Chapter 2: Literature Review

2.1 Autism:

Teaching communication skills are very essential to improve the lives of children with autism. Though there are many ways to improve these skills, research shows that early intervention is important and the intervention needs to be planned individually as per the child's requirements (nidcd.nih.gov). Early intervention is the best way forward. Involving the parents, teachers, and caregivers is also essential for the success of a good program. A few children with ASD may never be able to communicate using oral speech or language. In such cases, the children may be trained to communicate using devices, gestures, or sign language. Picture cards and other advanced devices may be used to communicate.

2.2 Perception by Physicians:

A few of the studies had been conducted on the knowledge of physicians regarding the autism spectrum and the result was pretty unbiased. The studies conducted had almost the same results even though they were carried out some years apart. The study by McCormack showed that the physicians do not have all the required knowledge about the autism spectrum to treat it (McCormack, et al., 2020). The physicians in India were surveyed to ask if they knew about the complementary and alternative medicines used for this spectrum. The results suggested that the physicians mostly were not aware of these medicines, which showed how physicians lack deep knowledge of the medical science of autism (Marathe & Sengupta, 2020).

2.3 Perception by Psychologists:

Psychologists perceive autism as a mental issue and not related to medicine. They have said that autism is an issue that makes a person perceive things wrongly. The issue of autism leads to people being socially excluded in social situations. People with autism can maintain a social life while also being shy, conserved, and scared (Kaufman, 2020). Psychologists believe that people with autism have a very special way of thinking that they perceive as something completely opposite and it is a blessing as well as a punishment for some people (Avraam, et al., 2019).

A study published in the Pediatric Journal highlights the importance of early diagnosis by pediatricians and the use of the *Diagnostic and Statistical Manual of Mental Disorders (DSM IV) for diagnosis* (Johnson, MD and Myers, MD, 2007). The study also indicates that the prevalence of ASD is increasing and genetic as well as environmental causes could be contributing to this. Similarly, another study by Lord, et al., 2000 suggests that diagnosis is critical as there are many other syndromes and conditions with similar symptoms. Children with ASD have deficits in social and communication skills which can be managed by early intervention to an extent. A study in the Middle East also suggests that environmental factors contribute greatly to the increasing incidence of ASD in the region (Virolainen, Hussien & Dalibalta, 2020). A study published in the Middle East Current Psychiatry Journal discusses the research done around Middle Eastern countries (Hussein and Taha, 2013). This research concludes that environmental factors contribute to the occurrence of ASD and it is found to be more among boys than in girls. Further, the study reports that medication is used to a large

degree along with other interventions. This has not been shown to provide an added benefit in the improvement of social or communication skills.

2.4 Theory of Mind:

The concept of the theory of mind is used in the psychological area of autism. According to this theory, children develop the ability to understand their own feelings and desires and also the other person's (Baron-Cohen et al., 1985, Hoogenhout and Malcolm-Smith, 2017). This concept generally means that a person is aware of the mental state of the person in front of you. Many studies have found that autistic people do not have this concept in their minds because of the other psychological issues that cloud their judgment. The people who have the least communication skills must have the problem as well of missing thoughts in the mind. This is also described as a basic skill that is missing (Kimhi, 2014). Since the ToM is lacking in children with autism it affects the daily functioning of these children in their daily living, especially peer interaction, school performance, and communication (Caputi et al., 2012, Lecce et al., 2011, Lera-Miguel et al., 2016). Studies done in the past decade have shown that ToM evolves as children grow and it is multi-dimensional (Westby & Robinson, 2014). In accordance with the multidimensional construct, research shows that cognitive and intrapersonal-interpersonal aspects are represented by different neuroanatomical parts (Abu-Akel and Shamay-Tsoory, 2011, Dvash and Shamay-Tsoory, 2014, Shamay-Tsoory et al., 2010). Many studies have established that ToM develops in a particular sequence. ToM can be seen in newborn children, where they are able to recognize their caregivers and try to imitate expressions (Baker et al., 2010, Walle and Campos, 2014). During their preschool years (3 to 6 years), they learn to identify emotions and can match the words of emotion to pictures, that

is, label the emotions of others (Assed et al., 2020, Masten et al., 2008, Miller, 2006, Shenk et al., 2013). Though there is plenty of research regarding ToM and its multidimensional aspect in children with special needs or autism, not much research is done regarding the measures of ToM in these children. Beaudoin et al. (2020) studied ToM in autistic children aged 0–5 years and according to their review, the constructs of the measures can be categorized into: emotions, likes, dislikes, understanding, perceptions, and understanding of figurative language. Quesque and Rossetti (2020) mostly reviewed whether the regularly utilized ToM measures needed a depiction of another's mental state. Osterhaus & Bosacki (2022) reviewed advanced ToM measures for preschool children. Despite these studies, the theory of mind measures and constructs from birth to school age has not been well assessed from the developmental and multidimensional perspectives identified in the ToM literature.

In another study, it was concluded that for the generalization of social skills in children with autism, ToM should be worked on as a part of a socio-cognitive intervention rather than in isolation (Kimhi,2014).

2.5 Teaching Conversation and Social Skills:

Teaching communication skills to children with ASD includes maintaining eye contact, and using and understanding gestures, body movements, and other vocalizations. Advanced training would ideally teach the children to maintain a conversation with reciprocal questions, take turns, and stay on topic. Conversation skills could be taught through visual cues, adult prompters, topic-based conversations, and record and review methods (autism.org). Teaching to perceive the other person’s perspective is very valuable in training autistic individuals in social or conversation skills. A study conducted by LeBlanc et al. (2003), used

video modeling to teach this skill. However, the results showed that this method was not successful. Welsh et al. (2019) stated that perspective-taking should be taught in relevance to everyday situations, for example playing hide and seek. This study used multiple pictures for examples and also involved the use of all 5 senses. This study showed that the generalization of perspective-taking was not easily achieved. Peters and Thompson worked on teaching perspective-taking to autistic children and understanding nonverbal clues in conversations. They studied and taught this skill through behavioral skills training, modeling, and prompting to identify the partners' body language. The children were trained for almost 8 weeks. They found that with multiple practice sessions and proper reinforcement on identifying the nonverbal clues, the children successfully learned to have a short conversation and also form new phrases in novel situations or topics (Peters & Thompson, 2015). Teaching initiation of conversation by asking for information is another important aspect of conversation skills. This helps to make friends and have a conversation over similar interests. In addition to this, giving compliments and receiving or reciprocating compliments are also critical. Hood et al. (2020) researched teaching children to deliver and receive compliments. In their research, they taught children with disabilities to give and receive compliments through behavioral skills training programs. They initially used model and text prompts to teach giving and receiving compliments in a contrived situation. Text prompts were used as booster prompts or to correct errors. For example, the conversation partner would change their appearance often to initiate the delivery of a compliment. After multiple trials, the text prompts were faded. Results showed that 2 out of the 3 participants were able to learn to give and receive compliments and the prompts were successfully removed. The study also suggests that initial teaching in the form of one-on-one training could be more beneficial. Many other studies have been

conducted in a similar manner showing that autistic children who have learned this skill fit better socially and show improvement in interactions (Wilhelms, 2012). Another study presented in the Journal of Autism and Developmental Disorders reviews research done on teaching conversation skills through video modeling and scripts. The results showed that audio and text scripts can be equally effective as video modeling (Ying Sng, Carter & Stephenson, 2013) The article goes on to conclude that audio scripts may be more effective than visual or textual scripts in teaching basic skills of conversation like initiating conversation and responding. Klinger and Williams (2009), stated that scripts could be used to easily teach social conversation rules in a stepwise manner. Behavioral skills training packages which include role play or pretend play have also shown to be very valuable in teaching conversation skills, especially among older children. A study conducted by Nuernberger et al., 2013 using role play to teach conversation skills to older kids (aged 18-23 years) showed considerable improvement in conversation skills. However, they were not able to show the same skills in the natural environment and were not able to generalize conversation skills. Duncan and Klinger (2010) reviewed various strategies to teach conversation skills. They looked at interventions using incidental teaching, social stories or scripts, role play, self-monitoring, and also peer support. According to their study, incidental teaching and peer interaction showed good improvement in conversation skills among middle school and high school children with ASD. They also stated that it is important to teach social skills in the clinic, school, and community to help generalize and maintain these skills. As a result, children with ASD may have difficulty using pragmatic language skills, which enable a person to communicate clearly, conduct appropriately, and comprehend the viewpoints of others (Lam & Yeung, 2012). Although people with ASD may be eager to interact, their inability to use pragmatic

language effectively can cause them to become socially isolated (Kelly et al., 2018). Their verbal communication may generally be deficient in cohesive devices, turn-taking, topic maintenance, lack of initiative or appropriate response, resistance to other people's attempts to alter the topic, and difficulties in perspective-taking. Their interactions are described in the literature as frequently having irrelevant details and perhaps coming out as stiff and one-sided. Their manner of communication may make it difficult for them to form friendships, restrict their connections with peers, and increase their risk of developing mental health issues during adolescence (Jackson). When working with children who have ASD, doctors frequently use interventions based on applied behavior analysis (ABA). The generalization of abilities across contexts, situations, and persons is essential for the most effective and efficient ABA communication interventions. Although the need for generalization is still essential, the literature frequently lacks explicit instructions on how to program for generalization (Spencer & Higbee, 2012; Whalon et al., 2015). Different categories for generalization programming were outlined in a seminal essay by Stokes and Baer (1977), of which "introducing natural maintaining contingencies" seems to offer the most promise for generalizing language and communication activities. These methods include employing natural rewards rather than synthetic ones, kid-friendly materials, and reinforcing approximations in more realistic settings (Lane et al., 2016).

2.6 Script Fading for Children with Autism to Teach Conversation Skills:

Script-fading package to educate children with autism to initiate social connections in a variety of activities in the classroom has been tried by various researchers. Many children who ranged in age from 8 to 10, showed deficiencies in peer social initiations. The individuals

made initiations to one another during baseline, albeit this conduct was erratic and did not last over time. But social initiations gradually rose after the script-fading package was introduced. The impacts of the script-fading package extended to a sibling and an unskilled home environment. This study built on earlier studies by illustrating the transfer of social initiations from the school setting with peers to the family environment with siblings (Wichnick-Gillis-Vener&Poulson,2019). Script fading has been shown to promote social contact in autistic individuals by behavior analysis researchers (Betz, Higbee, & Reagon, 2008; Krantz & McClannahan, 1993, 1998; Wichnick, Vener, Keating, & Poulson, 2010). A script is a word, phrase, or sentence that is written down or recorded and used as a model to teach dialogue. As the scripts fade out, one goal of the script fading technique is for participants to engage in more spontaneous social interactions. Unscripted social interactions are utterances that deviate from the educational scripts in more ways than only verb tense, conjunctions, articles, prepositions, or pronouns (Krantz & McClannahan, 1993). The amount of unscripted social interactions should gradually rise as long as the scripts can consistently emit them, fade out, and fade out (McClannahan & Krantz, 2005).

Several researchers have effectively increased unplanned social contacts that autistic persons with autism transmit to adults by using script-fading techniques. In order to encourage three autistic children to approach people about ongoing events, Krantz and McClannahan (1998) included scripts in the activity schedules. For instance, the youngsters were taught to use the words "Look" or "Watch me" when occupied with puzzles or Legos. As the scripts faded, the authors noticed a predictable rise in the number of unscripted social initiations. The same goes for Groskreutz, Peters, Groskreutz, and Higbee (2015), who trained three autistic kids to make comments to people while playing with them. Scripts were immediately connected to the toys

and comprised of phrases that needed to be filled in by the participants. The rate of unique remarks made by each of the three participants increased consistently as a result of the adoption of this approach. Other studies that utilized script-fading to teach relationships with adults have noted similar processes and results (e.g., Garcia-Albea, Reeve, Reeve, & Brothers, 2014; MacDuff, Ledo, McClannahan, & Krantz, 2007; Reagon & Higbee, 2009; Stevenson, Krantz, & McClannahan, 2000).

Script-fading techniques have also been employed by researchers to educate individuals with autism on how to connect with their peers. Krantz and McClannahan (1993) employed written scripts to train four autistic children to emit initiations to their classmates through art activities in their foundational work on script-fading methods. In order to boost the number of social connections among three autistic children, Brown, Krantz, McClannahan, and Poulson (2008) also utilized a script-fading technique. The writers immediately tied literary scripts to stimuli in the subjects' surroundings. The stimuli included things one could often find in a convenience shop, like candy bars, at a sporting goods store, like a football, and in a video store, such as videotapes. To display the stimuli, the writers designed fake storefronts. When scripts were eliminated, environmental cues elicited social interactions, and an increase in spontaneous encounters was seen over time. Similarly, to this, Wichnick-Gillis, Vener, and Poulson (2016) inserted scripts into educational and play objects to educate three autistic children on how to communicate with one another. The three kids' interactions gradually increased once the scripts were introduced. The stimuli on which the texts were overlaid elicited social interactions as they were gradually faded. Similar outcomes in training persons with autism to interact with their classmates have been seen in other script-fading research (e.g., Ganz et al., 2012; Ganz, Kaylor, Bourgeois, & Hadden, 2008; Ledbetter-Cho et al.,

2015; Sarokoff, Taylor, & Poulson, 2001). Despite the fact that these studies have shown how well the script-fading technique works at training persons with autism to engage with adults and peers, it's equally critical to take into account their siblings as potential conversation partners. In the family system, siblings serve as social partners with whom a variety of interactions may take place that influence development (Knott, Lewis, & Williams, 2007). However, due to the social-skills impairment that is a hallmark of the illness, children with autism may interact with their siblings less frequently.

Additionally, in less regulated environments like meals or playtimes, children with autism may exhibit higher levels of social isolation (Bauminger, Shulman, & Agam, 2003). Furthermore, Kaminsky and Dewey (2001) noted that siblings of autistic children reported lower levels of intimacy, prosocial behavior, and nurturing by their autistic siblings compared to the levels reported by siblings of typically developing children.

However, recent research by Akers, Higbee, Pollard, and Reinert (2018) did look at how the script-fading technique affected the volume of remarks made by autistic kids as they interacted with their siblings at home. The number of statements for all participants rose after the authors taught the siblings of the participants how to use an audio script-fading process. Furthermore, since no artificial reinforcement systems were used to achieve these findings, it's possible that the siblings' vocal reaction served as a reinforcer for the occurrence of the statement.

According to the findings of Akers et al. (2018), siblings can be good conversation partners in script-fading treatments.

Given the frequent interactions between siblings and autistic children, more study is needed in this area. In another study, the effectiveness of a script-fading technique employing embedded

text to educate two autistic children to engage in conversational remarks regarding the stimuli was evaluated using a multiple baseline over three sets of stimuli. The number of unscripted utterances rose, and both students made all of the scripted statements. Generalization was evaluated using untrained stimuli and new peers. It was however found that generalization was not occurring easily (Sarokoff, Taylor, and Poulson, 2013). Children with autism were taught to begin and engage in social interactions without vocal cues from adults by using script-fading techniques. However, there hasn't been any proof of a generalized repertoire of vocal interactions controlled by relevant naturally occurring stimuli in earlier script and script-fading research. In a study by Garcia-Albea, et al., 2014, four autistic boys were taught how to strike up a conversation in the presence of toys using a script and a script-fading technique. Audio scripts were used in this study to prompt the children to start the conversations. The possibility of generalizing voice interactions across novel toys was increased by training with a variety of toy categories and exemplars. The effectiveness of these treatments was evaluated using a multiple-probe design across individuals. The technique was beneficial in increasing autistic children's interactions in the natural environment, which helped with generalization.

Some studies have also looked at parent training to help generalize conversation skills. Parents were trained to use scripts and fade the same to help children initiate conversations at home and in places like parks or a playground with peers. In a study done by Reagon and Higbee, 2013 three moms of autistic children were taught how to write, use, and gradually fade scripts that encourage verbal initiations during play. After the introduction and fading of scripts, both scripted and unscripted initiations rose for all 3 children, and unscripted initiations persisted during the 2-week follow-up. The findings showed that script-fading techniques may be

successfully applied at home by parents of autistic children and that these techniques were useful for boosting verbal initiations during play.

2.7 Teaching Conversation and Communication Skills in UAE:

Several studies conducted in the UAE were examined to find the techniques used to teach communication and conversation in this region. Various methods have been used across schools, private centers, and even in 1:1 behavioral skill training programs. A study was conducted by Abduelkarem et al., 2019, Sharjah University, over a period of 4 months in which over 133 teachers participated. According to this study, the teachers felt that visuals with pictures were the best way to enhance communication and eye contact among children with autism in their schools. They also felt that video modeling was another way to improve their skills. Safi, Alshamsi, and Peprah Opoku, 2022, in their study, worked on understanding how parents in the UAE felt about the PECS' impact on their children's academic, social, and communication development. To gather information from the participants, the Perception Towards Picture Exchange Communication Scale (PTPECS) was created. 73 UAE-based carers of children with ASD were among the participants in the study. The findings showed that parents' attitudes toward using PECS to aid their ASD children's development were typically favorable. Additionally, employing the PECS improved the social, academic, and communication abilities of kids with autism. Mohammad and Abu-Amara, 2019 studied the use of AAC to teach children communication and conversation skills. According to them, different techniques are employed by therapists to help autistic youngsters become better communicators. The Augmentative and Alternative Communication (AAC) approach is one of the extremely effective strategies that has been advocated for and utilized to address speech

and communication issues with autistic children. With the use of communication techniques, the augmentative and alternative communication (AAC) method allows people with disabilities to complement or replace their spoken or written language. People with varied language impairments can express themselves and discuss their needs using a variety of communication methods that are included in AAC. Other auxiliary aids are available to assist persons with various disabilities in communicating with others, such as sign communication boards, images, and technological gadgets. They suggested a mobile application for autistic people which allowed them to communicate. Results from their study using "My Voice' an AAC showed that one of the children using the app was comfortable using it, but needed more practice. They concluded that it often takes autistic children one week to engage naturally with MyVoice. It was desirable if the autistic children who were being targeted had prior exposure to the PECS method.

Mohammed Alzyoudi, AbedAlziz Sartawi, and Osha Almuhiri, all from the United Arab Emirates University, conducted the study. Five autistic boys were selected as a sample for this investigation. The boys were between the ages of five and seven. Each youngster was instructed to watch a video of two people conversing in a role-playing situation. In one performance, a therapist provided clues, and in the second, a youngster acted correctly and displayed appropriate social behaviors. The boys were subsequently given a social task to complete, and their performance was evaluated in comparison to the baseline assessment metrics. The findings of this study showed that video modeling was a successful teaching strategy (Alzyoudi, Sartawi, and Almuhiri, 2014). A most recent study done by Safi et al., 2022, demonstrated that parents of children with ASD had mixed feelings regarding how PECS affected the development of children with ASD. This conclusion is somewhat at odds

with other research that claimed parents and practitioners had a positive view regarding the effects of PECS on the development of children with ASD.

Literature shows that many studies have been conducted using AAC, PECS, video modeling, script fading and also using adult prompters to teach conversation skills and communication to children with ASD. Most studies show that these methods successfully help children to initiate conversation but more training and further research is needed to ensure generalization of these skills.

Overall many articles were reviewed for this case study. About 79 articles were reviewed and some of them were not used. More recent and relevant articles were chosen for this literature review. Studies done among adults were discarded. Also, studies done regarding teaching conversation and communication skills that were more than 25 years old were discarded.

Not many studies have been done or published within the UAE. Nothing relevant was found especially in teaching conversation and communication skills using script fading techniques within the UAE.

Chapter 3: Methodology

The researcher used a qualitative case study method to assess and investigate the impact of teaching conversation skills to a child with Autism. The case study was conducted in a private center in Dubai, UAE. The qualitative case study approach gives researchers the tools they need to investigate complicated phenomena in their environments (Priya, 2020). When used effectively, the strategy may be a useful tool for developing theories, assessing programs, and creating treatments in health science research. The researcher chose to use a qualitative method as a case study to understand the effectiveness of teaching conversation and social skills to an autistic individual. Typically, case study method is chosen when the goal of the study is to provide "how" and "why" answers, when it is possible to control participants' behavior when we want to cover contextual conditions because they are important to the phenomenon under study, and also when it is unclear where the boundaries between the phenomenon and context should be drawn. The utilization of different data sources is a defining characteristic of case study research, and it also improves the reliability of the data (Patton, 1990; Yin, 2003). Documentation, archival records, interviews, tangible artifacts, direct observations, and participant observation are only a few examples of possible data sources. In case study research, unlike other qualitative methodologies, researchers may gather and combine quantitative survey data, facilitating the development of a comprehensive knowledge of the phenomena under investigation. In a case study, the analytical process converges the data from these several sources rather than treating them separately. Each component of the "puzzle," or data source, adds to the researcher's understanding of the whole

phenomenon. The conclusions are strengthened by this convergence since the different strands of information are woven together to help in the comprehension of the situation.

Here is a table showing how the research questions were studied and the methods used for data collection:

Table 1: Methods for Data Collection

Research question	The method used to analyze	Comments
a) To what extent the conversation skills delivered at a center in Dubai are effective?	1. Questionnaire – both pre and post-intervention answered by parent, teacher, and caregiver. 2. Semi-structured interview	The parent, teacher, and caregiver were interviewed to triangulate the collected data. A semi-structured interview was conducted to learn more about the student's conversation skills in a different environment.

b) Does this conversation skill help in improving social skills for children with autism?	1. Semi-structured interview. 2. Direct observation of the student in the group/ social skills sessions	Semi semi-structured interview was conducted so that the parent, teacher, and caregiver could describe or talk about how the student's social skills have changed or improved. Direct observation by the researcher helped to collect data on the student's initiation of conversation, maintaining eye contact, and reciprocating conversation.

3.1 Participant Details:

The participants, in this case, study were the teacher, the mother of the student (parent), and the caregiver of the student. The following inclusion requirements had to be satisfied by the participants: Caregiver of an ASD child under the age of 18, parent of an ASD child, teacher of the ASD child, and informed agreement to participate in the study.

The teacher of the child is a trained RBT (registered behavior technician) and is working with a child with autism who underwent intervention for 3 years in a center in Dubai.

The parent of the child with autism was another participant. She was trained to conduct the intervention, which is to teach conversation using a script and fading the script.

The caregiver of the child (nanny) spent 2 to 4 hours of the day caring for the child during the afternoon. The caregiver was also given the training to use a script and fade the same to help generalization of conversation skills.

All the participants were of Indian origin and aged between 30 and 35 years.

The student who underwent the intervention is a 10-year-old boy with Autism. He was diagnosed to have autism at the age of 3 years by an external clinical psychologist (not working at the private center). He was diagnosed using the DSM criteria (Diagnostic and Statistical Manual of Mental Disorders) put forward by the American Psychiatric Association. The student had delayed speech and language development. He rarely used or used very little language to communicate. He did not have an understanding of gestures, responded occasionally when spoken to, and did not engage in activities with his peers when he was diagnosed. The parents did not share the diagnostic reports as they were more than 7 years old and they had not repeated the assessment.

The student needed minimal help to perform his daily routine and personal hygiene activities. He was able to read and comprehend 3 to 4-sentence paragraphs fluently. At the private center, he was enrolled in an academic program with 3 other children who were also diagnosed to have Autism. His program included academic sessions in English, math, and science as well as behavioral skills training and social group activities.

The participants (teacher, parent, and caregiver) were given a questionnaire and their responses were recorded on a Google document. They were given questionnaires before and after the intervention. They also participated in semi-structured interviews.

3.2 Ethics:

This case study complies with the ethical considerations to keep the participant's identities confidential. The researcher has all the required consent and approval to conduct the study from the participants and the center where the study was conducted. Informed consent was taken from the participants after explaining in detail the method of study being conducted, the purpose of the study, and details regarding data collection. The participants were also informed that taking part in this study was strictly voluntary and they could withdraw from participation at any time they chose to do so. It was made clear to participants that declining to participate would have no negative effects or ramifications. Since they took the time to assist the researcher with this study, their choices were respected and the researcher refrained from attempting to persuade them otherwise. A lot of scientific rules of conduct as well as international law safeguard voluntary involvement as an ethical concept. All participants received the necessary details regarding -The purpose of the study, its hazards, and the advantages of participation

The supervisor's contact details and the institution's permission number, and how long the study will take. Additionally, the participants were informed that the information they provided would be kept private and confidential and that they were free to quit participating in the interview at any time for any reason. They can also opt out by getting in touch with the researcher or supervisor. There was no psychological harm, or social or physical harm done to

the student or the participants during this study. To get an informed consent the participants were informed of all the risks and benefits of the case study before they gave consent to participate.

3.3 Data Collection:

Data in this was collected through questionnaires, semi-structured interviews, and observation of the student.

Questionnaire- After reviewing many questionnaires used in similar studies the researcher formatted a questionnaire motivated by the Autism Inclusion questionnaire. The questions were modified and 16 questions were included. The questionnaire included demographic data, such as gender, age, and academic education, as well as information about the teachers' duties in the classroom and qualifications for handling the violent behavior and communication issues of autistic pupils. The questions were based on the ability of the student to communicate, maintain eye contact, and understand gestural clues. The participants were asked to answer the questions by choosing ‘yes or no’ options. The last part also had an option of responding with a short answer. The questionnaire was shared on Google Documents and filled out by the participants online. The questionnaire was filled out by the 3 participants before and after the intervention.

A questionnaire can be provided directly to the responder who fills it out on the spot and returns it, or it can be completed online and sent back by email or postal mail. Questionnaires can be

Self-completed, they are not expensive, they can be used when there are limited questions and the answers are restricted to fixed responses. Usually, questions are simple and clear. Questionnaires can also be used to collect data over a large topographical area.

Semi-structured interviews- The participants were interviewed by the researcher after the intervention. The researcher conducted semi-structured interviews with the teacher, parent, and caregiver. Each interview was for 15 minutes. They were semi-structured interviews and were written down, as the participants did not give consent to be recorded.

Most qualitative research involves the collection of data through participant interviews. The most direct and easy way to obtain rich, in-depth information about a particular occurrence is through interviews. The sort of interview that is used to gather data can be customized to the research topic, participant characteristics, and the researcher's chosen method. Although telephone interviews are more common, face-to-face interviews are still most frequently conducted to overcome geographic limitations to participant recruitment. Semi-structured interviews, where key components of the phenomena being examined are specifically questioned by the interviewer, are a popular method in qualitative research. A well-planned semi-structured interview should provide for the independence of the participants to freely put forward their ideas and perspectives to the conversation while ensuring that data are recorded in important areas. Last but not least, interviews may be considerably more rigorously arranged to give the researcher more control, thereby turning them into questionnaires with vocal replies rather than written ones. Though interviews are used regularly and are a good way to put together data in qualitative research, it has certain limitations. Researchers face numerous difficulties while conducting interviews. The majority of interviews are recorded;

thus transcription is necessary before analysis. This can take a long time—transcription of a single hour-long interview might take up to 6 hours.4 It takes time to do the analysis since transcriptions must be read word-for-word and line-by-line. The issue of bias is also prevalent during interviews; therefore, the researcher must be cautious not to use leading questions or nonverbal cues that might sway participants' answers.

Observation of the student- The student was observed during group sessions in which he participated in social group activities. He worked with 3 other children who were also on the autism spectrum. The student was observed for 30 minutes before the intervention (baseline) and he was observed for 2 days in the week during the intervention (for 2 weeks) and finally for 1-day post-intervention. Data was collected on the number of initiations made by the student, the number of times he stayed on topic, and the total number of times he spoke about his interests by the student in 30 minutes. The data collected was analyzed and graphed. The student was trained to start the conversation with a statement or phrase. It was not recorded if the student said nothing or just repeated what his peer had stated. When starting a discussion, the student also needed to address his peer. Both scripted and unscripted data were recorded.

Scripted: These were the words or sentences that were spoken aloud or comparable to the specified text cue card. Any pronoun usage mistakes were also taken into account. For instance, Can you,sit? (Instead of Can I sit).

Unscripted: If the student started the discussion without the cue card and if the words were replaced with other meaningful phrases in the recording, these were the words or sentences that fit the earlier cue cards. For instance, what are you doing? Or what are you eating?

The student and teacher were given a schedule for observation so that it enabled him to interact with a peer. The observer or teacher assisted the student if he did not initiate the talk, by indicating the cue card once or twice as needed. The student was encouraged to examine the cards and reply. The teacher provided reinforcing words once the student had accomplished initiating the conversation or reciprocated the conversation. Such reinforcement was given by the teacher to motivate the participant to go on working and interacting with peers without much interruption.

Student observations and conducting interviews involves being in touch with people and settings to be analyzed to study the research question. Data collected by observations can be analyzed though not statistically. The researcher decides what setting and the type of responses need to be observed or that can be counted as important for the research questions. Data collected by direct or structured observations are usually well-grounded and can be compared with other studies where similar tools have been used. The advantages of Observational studies can efficiently and at minimal cost give information on subjects that are challenging to examine. They enable you to do research on subjects that can't be randomly assigned effectively, safely, or morally. Since it is just a need to use existent data or watch participant behavior as it happens, they are frequently fairly simple to execute. They frequently provide crucial information for later, more extensive clinical trials or experimental designs. The disadvantages of observational studies have trouble standing alone as a trustworthy research technique. The likelihood of observer bias and missing or unreported confounding factors is considerable. They are frequently not externally valid or generalizable, lack definite conclusions, and can only serve as a starting point for more study. They can only observe responses to the intervention or therapy they are studying; they are unable to comment

on its efficacy or safety. As a result, they provide less satisfactory outcomes than alternative techniques.

3.4 General Method for Intervention:

The student was studied for 3 months (12 weeks) as part of the observation approach, which was used to sample data in order to track the progression and impact of script fading. The student was in class with his classmates and had the chance to start off a conversation using a text trigger (script). The cue cards were matched to the necessary dialogue in different sessions (English, social skills, break time, etc.) because the circumstances were again diverse. For instance:

The signal for English class would be, "Can I sit with you?"

Have you completed your homework?

Help me with my work, please.

What are you eating for lunch?

This looks delicious!

Can we play together in PE?

Would you want to play with me? Please pass the ball to me.

There are both questions and clues in the text. The cue cards were slowly faded or removed. The child's text cue cards were positioned close to where the workstation was situated. Text with a font size of 14 printed on cards with varying lengths based on the amount of words

used. The teacher was asked to hold out the cue cards during the English and social skill sessions. The student's parent and caregiver were also taught how to use similar text prompts at home and in the park to generalize the skill. They were also trained to remove one word at a time similar to what the teacher was doing in her sessions or class. For example:

Words will be removed from the script one at a time. Like, may I sit with ____?

Have you completed your _____?

The script was faded or words were gradually removed one by one until the student was seen to initiate the conversation.

The researcher here used questionnaires, semi-structured interviews, and observation techniques to conduct this case study in accordance with best international and ethical practices.

Chapter 4: Results

This case study was done to understand the effectiveness of teaching conversation skills to an autistic child using script fading. This study was also done to see if teaching these skills helps to improve social skills. The results here are presented in a descriptive form in three parts. The first part is the results of the questionnaire (pre and post-intervention), the second part is the results from the semi-structured interview and the third part is the results from the observation session.

4.1 Results of Questionnaires:

The questionnaire was answered by the teacher, parent, and caregiver of the student. They answered the questions before the intervention and also after the intervention. The pre-intervention questionnaire showed that they all agreed that the student was able to initiate and return greetings appropriately. It was noted that he was not able to maintain eye contact during a conversation.

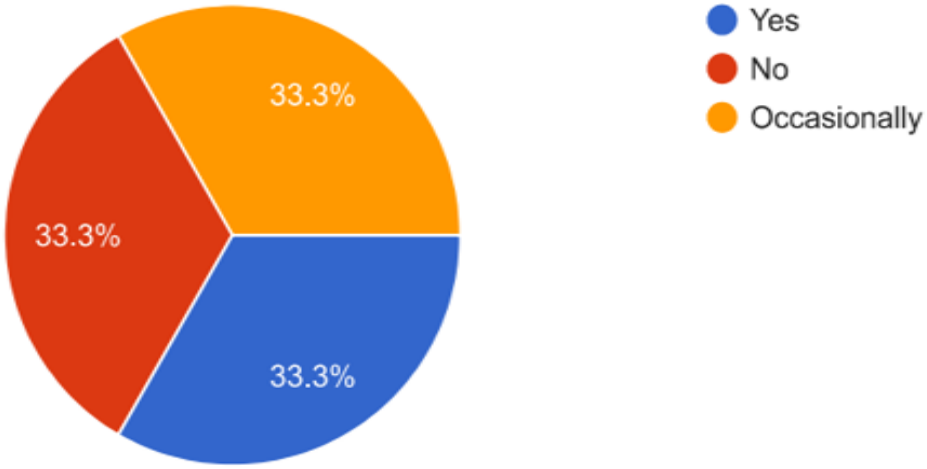


Figure 1: Body Language

He was not able to interpret body language or gestural cues consistently. While the parent (mother) found that he could interpret her body language and tone of voice appropriately, the teacher and caregiver found that this was not the same with them.

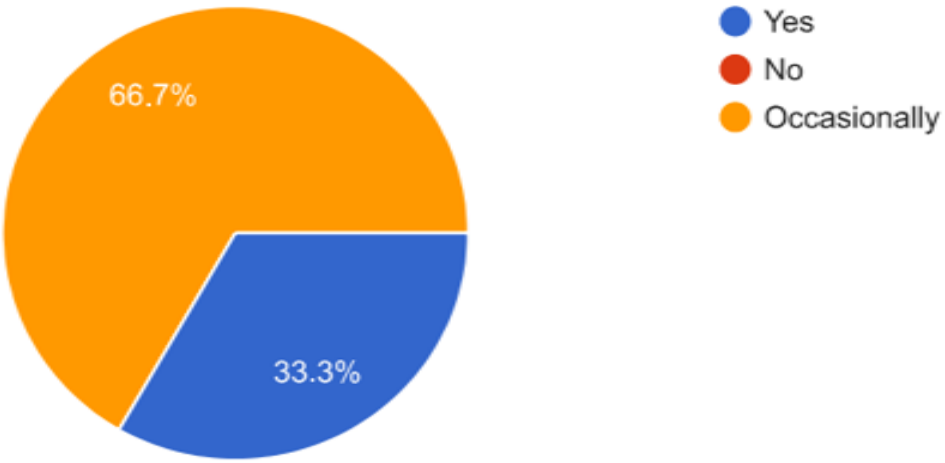


Figure 2: Taking turns

Student SV was noted to be good with taking turns according to the teacher and his caregiver, while he struggled to take turns with his mother.

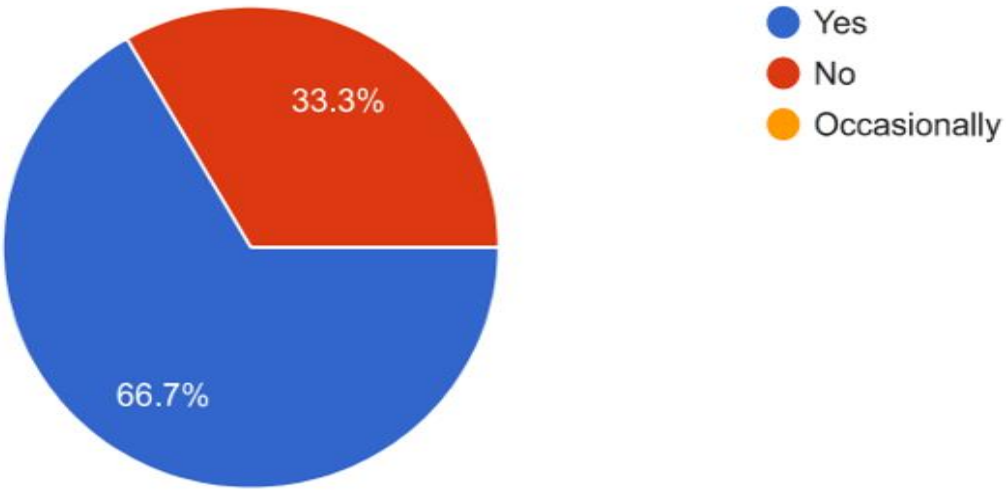


Figure 3: Talking about interests

All 3 of them agreed that SV spoke very little. Similarly, they agreed that he was not able to talk appropriately regarding his interests.

All 3 participants also agreed that SV spoke very little and he did not talk about his interests. They also agreed that he could not end conversations appropriately. He also was not able to gain attention from others to start a conversation in the right manner. Both SV's teacher and caregiver felt he used more than 2 sentences or short phrases to have a conversation, but his mother felt he only used short sentences or phrases.

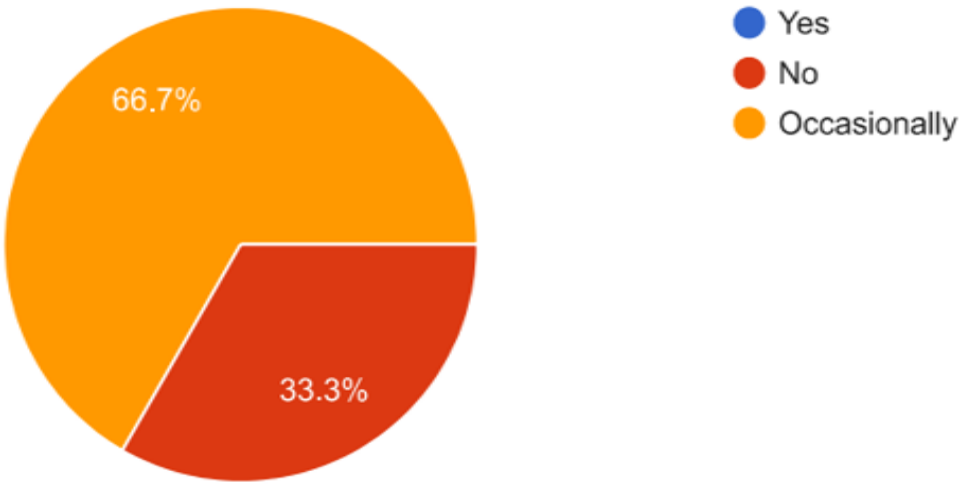


Figure 4: Giving and receiving compliments.

With receiving and giving compliments, all 3 felt that SV was able to receive compliments politely while he was not good at giving compliments. However, the caregiver felt he was also good at giving compliments.

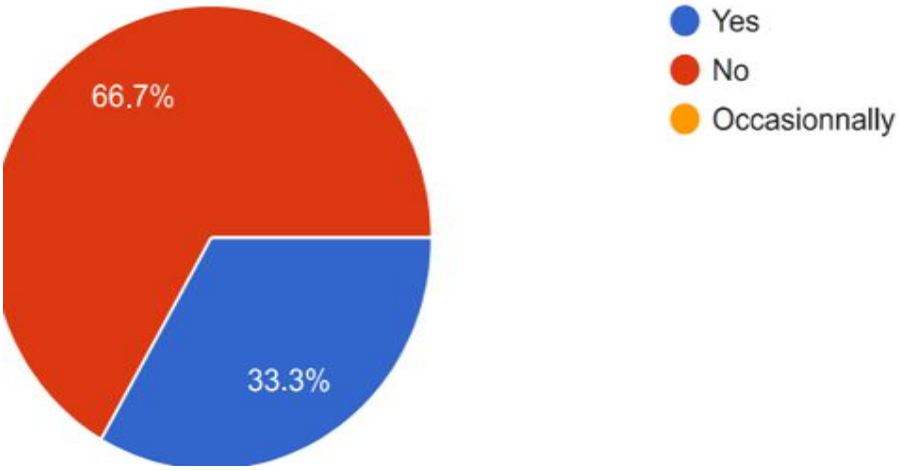


Figure 5: Initiation of greeting.

Post-intervention questionnaire results showed that there was a good improvement in SV. All the participants continued to feel he responded to greetings and initiated greetings appropriately. He was also better at maintaining eye contact during conversation.

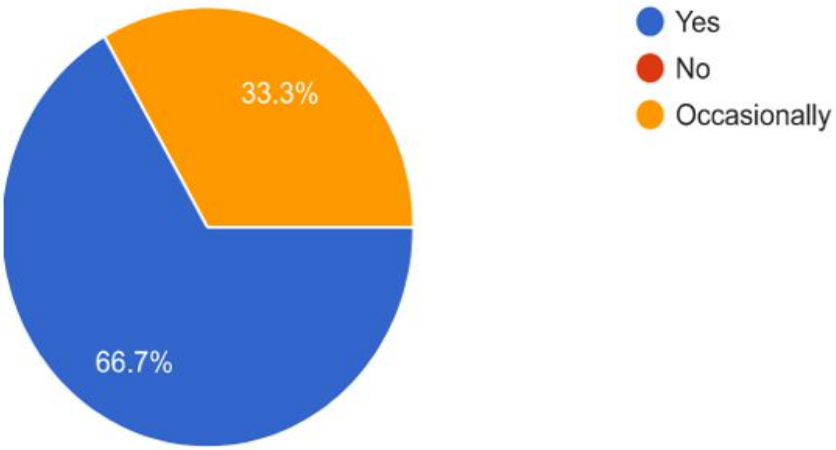


Figure 6: Taking turns

His teacher, parent, and caregiver agreed that he was able to easily take turns during conversations, and ask questions and he also could end conversations in the right manner. It was seen that he had got better at talking about his interests.

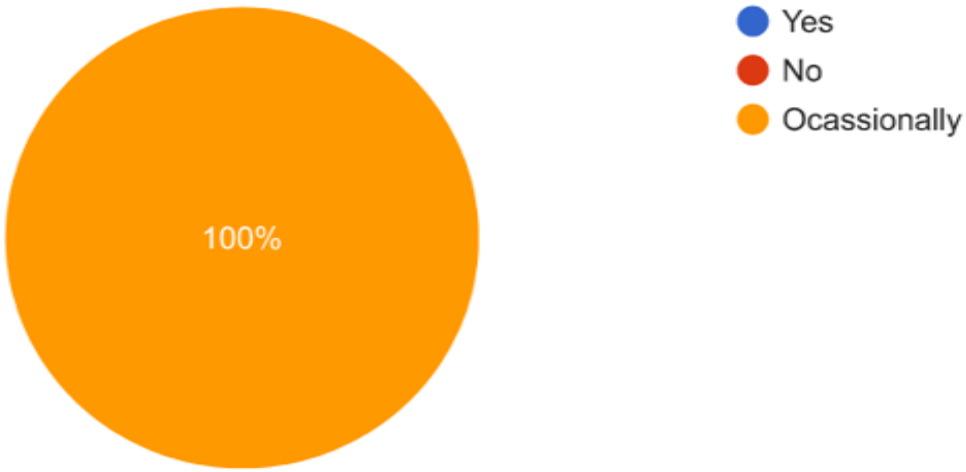


Figure 7: Talking appropriately

The participants felt that SV had started talking more than what he used to before the intervention. He was using more than a couple of sentences to have a conversation.

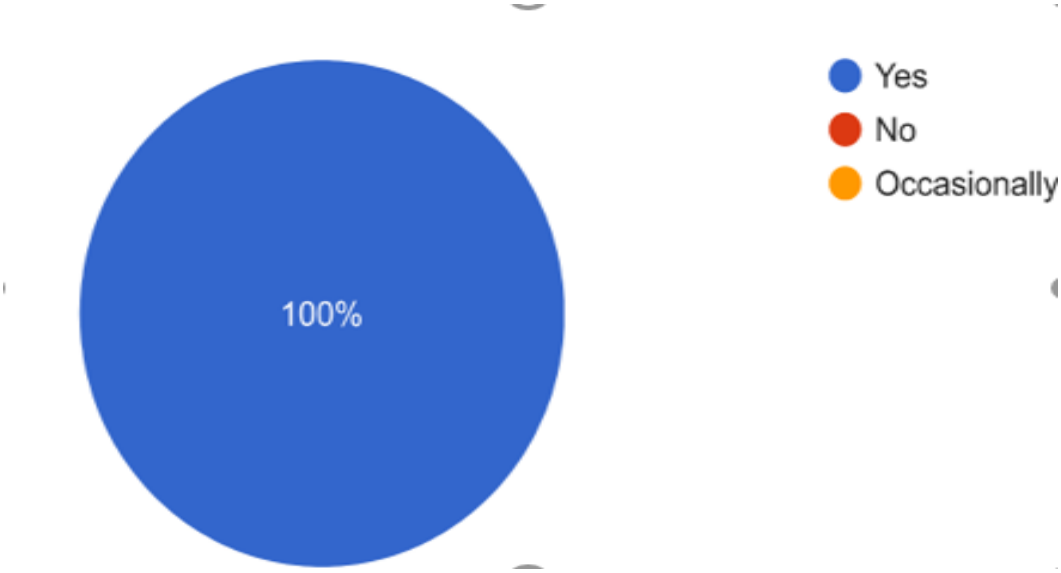


Figure 8: Giving compliments.

All of them noted that he had begun giving compliments during a conversation. There was not much change in the interpretation of body language or gestures and also interpreting the tone of voice.

4.2 Results of Semi-Structured Interviews:

The semi-structured interviews were conducted post-intervention. The student's mother, teacher, and caregiver were the participants. The interviews were conducted face to face and they were for 15 minutes with each of the participants. The interviews were unstructured and based on the following questions:

Interview Questions

1. How comfortable is SV in interacting with his peers?
2. Is he able to continue conversations with peers?
3. Is he able to converse with new friends or people he just met?
4. Does he like interacting with people?
5. Does he use new words or phrases in his conversation (other than those used to teach)?
6. What other changes have you noticed?

The participants did not consent to recording the interview, their answers were written down by the researcher.

Both the teacher and the mother of the student noted a lot of changes in the student's conversation and social skills. SV was able to initiate a conversation with new people and also interact for close to a minute or an exchange of 3 to 4 sentences. The teacher also mentioned that he was more comfortable with his peers since he now knew how to continue a conversation. According to the teacher, SV was able to stay on topic and did not need much redirection for this. The teacher also said that SV could give compliments more often than before the intervention. Although he showed improvement, he was not able to use new phrases or understand gestures or body language while having a conversation with adults.

The teacher said "SV is able to have a short conversation with his peers without text prompts. He also shows interest in interacting with his peers. He is good with taking turns and waiting during a conversation. He still struggles to understand body language; he sometimes tries to continue the conversation even if the other person does not want to do so". She also stated that "SV is very comfortable and happy to engage with his peers in the classroom and during social skill sessions. He is able to talk to them and reciprocate a short conversation".

He has learned to end a conversation quite appropriately by saying bye or giving a compliment. But on occasion, he needs to be verbally reminded to end the conversation in the right manner.

Overall, I have seen a lot of changes, but given more time and continued intervention, SV will be able to improve further with his social skills".

The mother of the student also noted good improvement in conversation skills at home. She noted that he was able to converse for 3- 5 exchanges or sentences even with people he just met. He was able to recognize changes in tone of voice or if she was angry or did not want to talk to him.

The mother said “My son has shown good progress in his conversation skills and in family events he can talk to adults easily. He needs some time to start a conversation with children of his own age. He is learning to stay on topic and occasionally needs a gentle reminder about what we are talking about. The other thing he needs to still work on is learning to understand if the other person does not want to talk. He continues to talk even if the other person is not interested. My son understands my emotions well and even asks me if I am sad. We will continue working on helping him to get better with his social skills. We as parents have seen a good improvement and want to thank his teacher for this intervention. He has progressed well”.

The caregiver of the student expressed that although SV had shown improvement in his conversation skills, he struggled to carry out a conversation in the park, especially with children he had not met before. She stated that he was not able to identify the emotions of the other child or understand if one of them did not want to play with him.

The caregiver said “SV is very attached to me. He likes to go out to play with his friends. He likes to play on the swing and slide but doesn’t like to play in a group. He is now getting better at talking with his friends and he has made new friends as well. He needs help with social skills and talking more with new people. He is very shy.’

Overall all the 3 participants agreed that the student was better at conversation skills and social skills after the intervention. They all also agreed that continuing the intervention for generalization would be beneficial.

4.3 Results of Observation:

The researcher observed the student prior to intervention, during intervention, and post-intervention. Data was collected (both scripted and unscripted) to record the number of initiations, the number of times the student stayed on topic, and the number of times he spoke about his interest. The recorded data was graphed. Results showed that SV progressed well with initiating conversation and staying on topic. He was able to initiate conversations and stay on topic without a script. However, with regard to talking about his interests, SV continues to need support with a script.

Table 2: Data for Initiating Conversation

Data for initiating conversation:

	Baseline	Intervention 1	Intervention 2	Intervention 3	Intervention 4	Post-intervention
Scripted	7	7	4	2	0	0
Unscripted	4	3	5	7	12	17

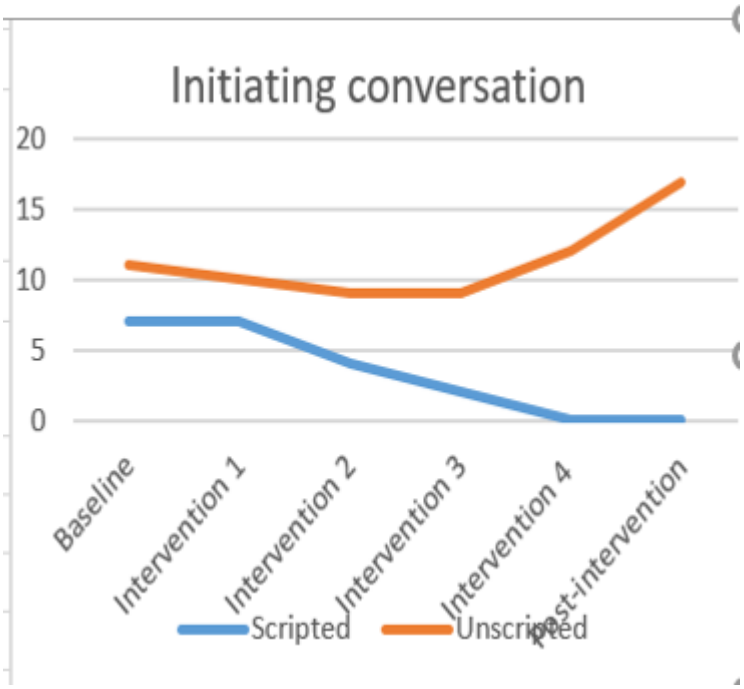


Table 3: Data for Staying on Topic

Data for staying on topic

	Baseline	Intervention 1	Intervention 2	Intervention 3	Intervention 4	Post-intervention
Scripted	1	5	3	3	0	0
Unscripted	0	0	2	2	4	6

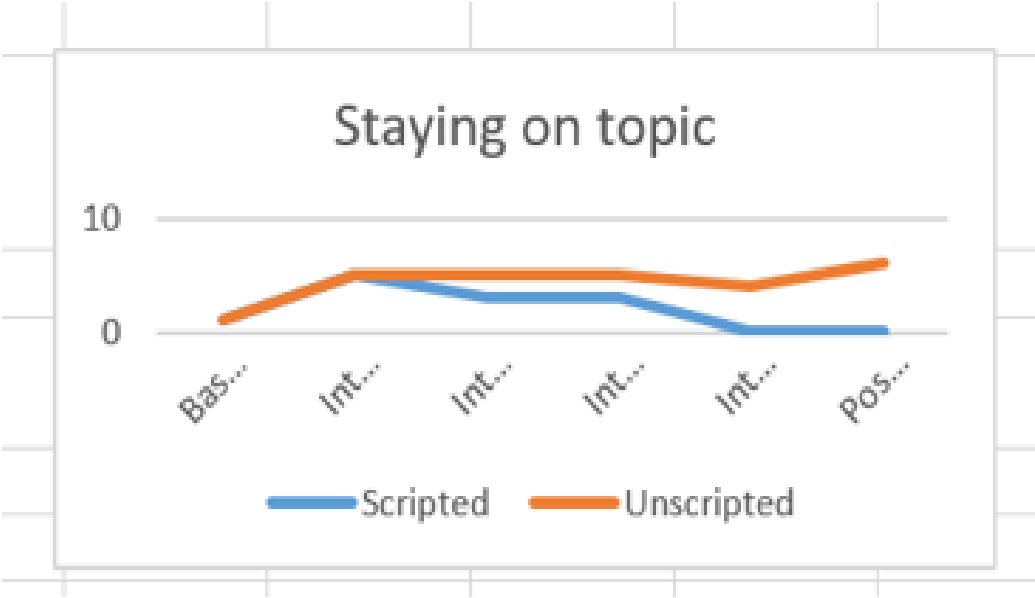
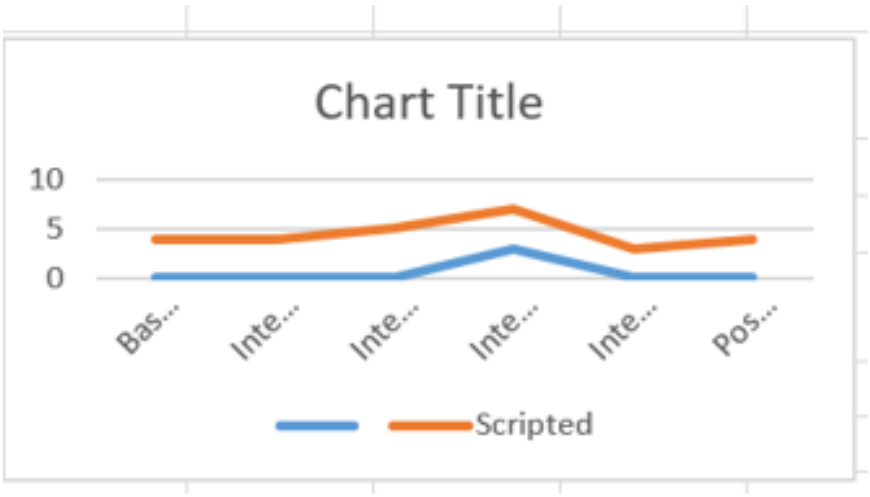


Table 4: Data for Talking About Interests

Data for talking about interests:

	Baseline	Intervention 1	Intervention 2	Intervention 3	Intervention 4	Post-intervention
Scripted	4	4	5	4	3	4
Unscripted	0	0	0	1	1	1



4.4 Analysis and Discussion:

Analysis of the results of the case study showed that there was considerable improvement in the conversation skills of the student who underwent the intervention. The student also showed improvement in his social skills.

Results from analysis of the questionnaire showed that all the participants agreed that there was a change in the student's conversation skills. On analyzing the teacher's questionnaire, it was noted that she found that the student was better with conversation skills. According to the teacher, SV had begun to show interest in conversation with his

peers. He had a better eye contact during conversation. He was able to take turns during a conversation and also speak more than a few sentences. SV had also started to speak about his interests more than before the intervention. The teacher stated that his focus during a conversation was better post-intervention. However, the teacher noted that SV was still not able to understand body language and gestures very well. The parent also felt that SV showed improvement in conversation skills after the intervention. The parent noted that he was able to stay on topic, maintain eye contact, and also show some understanding of emotions. SV's mother noted that on occasion he was able to understand if she was unhappy or upset with him. The caregiver on the other hand did not note many changes in SV when she was with him in the park. She felt that the changes were not many. She also said that he was able to identify emotions pre-intervention. She noted that he still found it difficult to continue a conversation with new people or children of the same age group.

Analysis of the semi-structured interviews also showed similar results. Both the teacher and parent felt that there was an improvement in the conversation and social skills of the student. The caregiver did not express the same. She felt though there was an improvement it was marginal. She felt that he was able to have similar conversations with her before intervention and he still was not comfortable talking with new friends (typically developing children) in the park and other places where she used to take him.

An analysis of the observation showed that SV had progressed considerably after the intervention. The researcher observed the student before, during, and after the intervention. A steady improvement was recorded in the areas of initiating conversation and staying on topic. It was seen that SV needed a script to stay on topic and also for initiating a

conversation with his peer group. In a time, frame of 4 – 5 weeks, the need for script gradually reduced and he was able to initiate and carry out a conversation with his peers and teachers as well. He did not need a script to initiate and stay on topic. SV easily learned to make use of the scripts to communicate as soon as they were introduced. He began taking support of the scripts and having a conversation or communicating within 2 to 3 sessions after introducing the same. Script fading was introduced within the first few sessions as SV had learned to use scripts fluently. Once the script fading was introduced, there was a gradual rise in the unscripted initiations. These unscripted initiations increased across activities in the center. With initiating conversations, script fading was introduced by the end of the first week of intervention. By the 4th week, there were 0 scripted initiations. After 3 weeks of intervention, there were 0 scripted initiations and 17 unscripted initiations. Similarly, with staying on topic, SV was not able to stay on topic for even a single occasion. He needed scripts to stay on topic for every conversation or social skill session. Scripts were faded by the 4th week and by the end of 6 weeks, SV was able to stay on topic without script for 6 occasions. Similar changes were not recorded with talking about his interests. SV continued to require scripts to talk about his interests. SV required scripts for talking about his interests all the 4 times this exercise was carried out. SV was not able to talk about his interests without scripts. At the end of 6 weeks (post-intervention), only 1 unscripted conversation about his interest was recorded. The researcher also noted that this unscripted conversation was something that was practiced over the 6 weeks and was not novel. SV continued to initiate conversation and improve his conversation and social skills after the script fading. Similarly, his social and conversation skills showed improvement at home and at the park to an extent.

Generalization of communication, conversation, or social skills was poor. SV was not able to show these skills in the park in engaging with typically developing children as explained by the caregiver during the semi-structured interview and in her questionnaire.

4.5 Discussion:

This case study was done to understand the impact of teaching conversation skills to a 10-year-old boy with Autism. The study also focused on understanding how efficiently conversation skills could be taught in the center and how this helped the child improve his social skills. The results of this study show a functional relationship between a script-fading package and the quantity of unscripted initiations made by the student, SV. The training program included differential reinforcement of untrained language and script-fading. The findings also demonstrate that this script-fading program was a successful strategy for encouraging the generalization of social initiations from the school setting with peers to the unsupervised home environment with parents and in a social setting for example a park with typically developing children which may have an impact on the child's development as well as the dynamics of relationships with other family members and in society.

SV, was able to talk in complete sentences prior to the intervention only in response to questions asked for example, where do you live? Or what do you want? He could also read fluently and comprehend well. This was the criteria for choosing a candidate for the intervention. The teaching of conversation skills using scripts and fading the scripts has been recognized as a very successful intervention to teach conversation skills (Alison M. Wichnick-Gillis et al). A similar method has been used to teach children with autism to

give and receive compliments successfully (Hood et al., 2020). Abiding by the best international practices, SV was taught conversation skills using script and script fading procedures. Perspective-taking is also an integral part of social skills training. One of the key talents for social integration across settings is the ability to accurately detect the private happenings of others. Research on the Theory of Mind has profoundly influenced and promoted the idea of perspective-taking. The capacity to assign mental states, like intention and desire, to oneself and other people is referred to as the theory of mind. However, the theory of verbal conduct developed by Skinner may be used to easily translate perspective-taking. According to LeBlanc et al. (2003), perspective-taking involves the following:

-observing another person's actions in a situation and foretelling that person's next move (e.g., "He is going to look for the ball where it was before we moved it") or

- reacting in line with the innermost feelings or thoughts that a person might typically have in that circumstance (e.g., comforting someone who is disappointed). SV was not able to successfully learn to interpret body language or gestures. He was also not able to identify or predict another child’s reaction in a social setting, for example, in the park while playing hide and seek.

A mixture of different approaches may have led to the generalization of initiations in the untrained home situation. First, the likelihood that initiations would transfer from the trained center context to the untrained home setting may have risen with the usage of similar triggers. Because the text prompts, conversation topics, and social skill stimuli had gained some degree of stimulus control on the behavior during training with the script-

fading, it may be assumed that social initiations likely generalized to the home environment in part. Second, the script-fading process, a stimulus-fading technique, is intended to lessen the ability to distinguish between training and non-training reinforcing contexts. Discriminative control may have transmitted when the scripts faded from the stimuli to which they were linked. By establishing the generalization of initiations radiated by autistic children to their parents in the home environment, this study has advanced the body of knowledge on script fading. Similar to the study done by Akers et al. (2018) study, previous researchers have trained individuals with autism to engage with peers and adults, but not with siblings. But there are several restrictions that further study could address. For instance, the present study assessed the effectiveness of a therapy package that included physical prompts, vocal prompts, a token economy, scripts, and script fading. Similar to this, reinforcing contingencies in the home and center environments weren't completely eliminated. By the end of the research, SV was still exchanging at least two checkmarks for backup reinforcers, and the checkmark delivery was never faded out. As the student, SV consistently emitted initiations to one or another peer in the classroom during the course of the trial, the delivery of behavior-specific praise and physical touch diminished. Nonetheless, the reinforcement fading was not done and SV continued to need social praise as a reinforcer. Only the investigations of Garcia-Albea et al. (2014) and Akers et al. (2018) incorporated a thinning of reinforcement schedules or the absence of artificial reinforcement systems in their script-fading study.

Prior to using the script fading technique, SV was taught conversation skills with the help of video modeling and later using verbal prompts with the help of a teacher, who was present to prompt SV to respond and continue conversations. It was recorded that both

interventions were not very successful in teaching SV conversation skills. In turn, his social skills did not show much improvement either. With video modeling, it was seen that SV found the demonstrated video interesting and was able to repeat the exact phrases in the video but was not able to generate or form novel phrases or sentences. Once the video modeling was removed, SV was not able to respond to questions appropriately or carry out a conversation. With the use of an adult prompter (teacher), it was noted that SV was dependent on the verbal prompt to continue a conversation or respond to peers and teachers.

The researcher was able to observe SV prior to intervention, during, and after intervention. It was noted by the researcher that SV had shown improvement in initiating conversations, responding to conversations, and also staying on the topic of discussion. Before the intervention, SV often moved away while talking to his peers. He also frequently spoke about unrelated topics or commented regarding events that had occurred in the past. This was considered to be due to the fact that he struggled to find more words or phrases to talk or add to the discussion. His language repertoire was limited. However, post-intervention, it was seen that SV could easily make new sentences and phrases and engage in conversation. SV focused on the topic and understood how to stay on topic. He continued finding making a conversation regarding his interests difficult. SV was not able to carry out more than 2 to 3 sentences concerning his interests.

Results from the semi-structured interviews and questionnaires showed that generalization of the conversation skills was low. Though SV's parent acknowledged that his conversation skill was getting better, he was not able to stay on topic easily. Also,

initiating conversations in the park had not increased and continued to be at low levels with typically developing children, according to his caretaker. There was limited generalization, especially in the park or playground. This restricted generalization appeared to be brought on by the structure of play in the park, which inhibited contact. Instead, playing in the park, play area, or playgrounds stressed engaging in physical exercise and adhering to a rigid set of guidelines. Despite expectations for regular informal engagement, the majority of children did not interact in the park or playground.

4.6 Limitations:

The intervention was carried out for 3 weeks and the script was faded. The duration of the intervention was very short. Improvement could have been better if there had been a longer intervention. The student was trained for conversation and social skills with his peers, who were also on the Autism spectrum. SV was not trained with typically developing children. This could be the reason for a lack of generalization. Although parents and the caretaker were trained to use and fade the scripts, the home, and park was considered an untrained setting as both parent and caretaker did not follow the procedure, there was a procedural drift. The absence of procedural integrity data assessing experimenters' and family members' implementation is a shortcoming of this study. The teacher was able to covertly teach the student (SV) on what behaviors to participate in before each trial since sessions were done in a natural setting with lots of distractions present in the room. During baseline and post-training, family members were only needed to perform the prescribed conversation and social skills activity at home and park using

similar conversation cues. Procedures were always carried out by the teacher during the training period.

A certain amount of discriminative control over the frequency of initiations was attained by the researcher. All baseline, training, and generalization sessions included the lead investigator. In light of this, it's probable that the main investigator or researcher functioned as a discriminative cue for starting. The presence of instructors or experimenters does not seem to have been purposefully faded in any of the script-fading trials that have been mentioned. For reasons of comparison, normative data were not included in this study. It is therefore impossible to say if the rate of initiations was comparable to that of their classmates who were usually developing, despite the fact that there was an increase in the number of initiations. However, this study was successful in imparting spontaneous language that was suitable for the assigned activities. It may be fine to use scripted replies at specific points during these activities, such as "Let's build together" at the beginning or "I'm all finished" at the end, but it is also acceptable to use a variety of comments throughout these activities. This intervention may aid participants in acquiring language that more closely reflects that of their typically developing peers by encouraging spontaneous speaking.

Additionally, because of the length of this trial, no maintenance data were gathered. Such information could be useful in determining how long the script-fading intervention will last. The longer baseline was one aspect that added to the study's duration. Before a change in behavior during the first activity was noticed in the home environment, intervention was not included in subsequent activities. According to reports, parents were happy with the

study's findings and liked watching their kids play and communicate with one another. The absence of social skill display in the natural world has been a drawback of previous social skills programs. Social skills interventions, according to Gresham, Sugai, and Horner (2001), frequently take place in resource rooms or other pullout settings. The artificial situations in which social skills are frequently taught may be to blame for the absence of social skill display in the natural world (Gresham et al., 2001). Past social skills therapies with people who have ASDs have had some drawbacks as well, including the complexity of the intervention and the significant human resources needed to sustain the therapeutic benefits (Cimera & Cowan, 2009). Social storytelling, script fading, and video modeling are a few popular methods for teaching social skills (Flynn and Healy, 2012; Schreiber, 2010). However, these methods might not be the most effective in all educational situations. For instance, Flynn and Healy (2012) suggest that script fading may not be the best method for teaching multi-component abilities like flexible conversational response. In addition, social tales and video modeling call for the use of extra, occasionally expensive materials (such as stories and video equipment), which may not be available in all situations (Leaf et al., 2009).

Chapter 5: Conclusion

Children with autism, a demographic for whose conversational and other social skills pose possibly the biggest challenges, are the focus of this case study, is to understand techniques that can be beneficial to them. The techniques employed in this study were modified to treat a variety of different social skill deficiencies, particularly those that call on responding in a certain way depending on responses and nonverbal cues from others. Children with autism need to keep working to increase their social repertoires which are sensitive to naturally occurring discriminative stimuli and social reinforcers. We must keep working to create programs that create social repertoires that are sensitive to naturally occurring discriminative stimuli and social reinforcers but robust enough to withstand periodic extinction in order to help people with ASD benefit as much as possible from the opportunities offered in included settings. The absence of social skill display in the natural world has been a drawback of previous social skills programs. This case study devised a program to encourage the generalization of social skills in the natural environment as well. It was partly successful and it was concluded that the student needed more practice for fluency. In order for older children to successfully transition to other developmental stages, such as secondary education and employment, social skill interventions must be implemented in the clinic, school, and community settings to increase learning, maintenance, and generalization of social skills. Despite the clinical necessity of offering social skills therapies to children with ASD, the efficacy of these interventions is not well supported by empirical data. The special educator should start fading cues as soon as the learner demonstrates mastery and confidence in utilizing the target abilities in a range of contexts. Making the choice to decrease prompts

might be challenging. The hierarchy for fading is created in the same way that a hierarchy of least-to-most prompts is. The amount of information contained in the prompt is the primary factor for fading. There are several pieces of information in each prompt. For instance, the what, how, and when of the talk were incorporated in the visual cue to halt. "Pause" denoted a brief break in discussion while waiting for the other person to speak. The instructor should fade the usage of cards when choosing which prompt to fade. The teacher's discretion and the performance data at hand choose which cues should fade and how soon. Making sure the pupil will succeed even when a cue fades is the crucial component. Fading should include increasing student engagement while progressively reducing the teacher's influence over the answer. Another important aspect of social skills and communication training is to understand nonverbal clues. According to Hadwin, Baron-Cohen, Howlin, and Hill (1996), Maurice et al. (1996), Maurice, Green, and Luce (1996), and Williams, Gray, and Tonge (2012), teaching children with autism to tact nonvocal social responses—i.e., labeling or receptively identifying emotions—is a common technique used in social skills training. Concurrent improvements in social skills may be anticipated but not directly assessed. Social skills programs for kids with ASD should be highly recommended to be incorporated in direct assessments of crucial social skills and, where required, the direct teaching of those abilities.

Although ToM research indicates that discerning what others perceive is a component ability to perspective taking, it is not apparent if this talent is actually required to successfully build a repertoire of perspectives.

A one-on-one teaching method may have the inherent flexibility to correct persistent mistakes as they arise, which may be essential to produce socially important results. The learning and

social acceptability of the abilities we taught may be improved by teaching compliments by programming evocative scenarios (antecedent stimuli) with instances of performance, possession, and appearance praises depending on participant preferences. There hasn't been any research on whether social skills partners prefer nonreciprocal compliments on looks, although it stands to reason that it is more motivating to receive the compliment. Expanding on the present practices to effectively educate praises merely based on improvements in appearance is necessary. Methods for teaching practically applicable conversational skills will be improved by a full understanding of the circumstances in which compliments are most successful for the speaker and have the greatest influence on the listener.

Behavioral skills training (BST) is one of the most frequently used programs to teach social skills or communication skills. The elements of the BST technique for instructing how to have a conversation or exchange compliments are taught by breaking down the skills to introduction, modeling, and finally practice and feedback. Errors are fixed using text-based reminders that provide broad directions (such as "give a compliment"). The first lesson in teaching initiation instruction is requesting skills. The initial response is straightforward: to state the name of the item that is needed or desired. The process of starting a social engagement is quite similar, with the exception that the learner is applying a template for interaction to a particular scenario rather than acquiring words to convey wants. The learner must pay attention to the context while incorporating that knowledge into verbal exchanges in order to engage in the discussion or play partner successfully. The following circumstances where initiations are required: When making new acquaintances, look for interests and traits. When at work or play advice may be needed on what to do next or how to handle an issue. When you are out in public, you may need help finding your way.

5.1 Future Research:

The development and evaluation of social skills therapies for children with ASD definitely call for more study. It will be crucial to include peer conversation partners in order to adequately capture speaker and listener behavior (i.e., interested and uninterested), as well as the differential consequences offered by the listener. However, assessment conditions may need to be modified. For instance, the inclusion of trained or coached peer confederates or competing contingencies for peer behavior (such as background music or toys present) might be used in conversation probes. Further, behavior analytical methods need to be utilized to teach conversation skills and social skills to children with ASD. Past research has shown that BST has been very effective in teaching basic components of social skills and also advanced skills like perspective-taking and skills like false beliefs. Research should be expanded upon in subsequent studies to demonstrate how attentive observation of other people's interactions might promote efficient social interaction. Last but not least, evidence suggested that parents were happy with the study's findings and that they loved watching their kids play and connect with one another.

5.2 Recommendation for Further Studies:

Future researchers may do a social validity analysis to see how family members view the benefit of the behavior change. The findings from this study can help researchers use script fading packages to train children with autism to improve their conversation skills. The research could include involving typically developing children and/or siblings. More focus is

needed to generalize conversation skills in the natural environment. This study was center-based, further studies can be conducted in schools with Dubai and other emirates.

To conclude, this study showed that children with autism could be taught communication and social skills successfully through script and script fading procedures. BST procedure is a good technique for training children and can be used for the same in groups and for individual training. However, autistic children find it difficult to understand gestural cues or body language. This can be taught through advanced training using BST techniques with video modeling and other tools. Generalization of communication and social skills can be achieved through training the children in different settings and in the natural environment. Generalization of skills may take a longer duration to achieve despite consistent training. This intervention may help children with ASD to achieve language and social skills that are more similar to that of their peers who are typically developing.

References

Akers, J. S., Higbee, T. S., Pollard, J. S., & Reinert, K. S. (2018). Sibling-implemented script fading to pro[1]mote play-based statements of children with autism. Behavior Analysis in Practice. https://doi.org/10.1007/ s40617-018-0257-5

American Psychiatric Association (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Arlington, VA: American Psychiatric Publishing.

AutismSpeaks, 2018. Autism and Anxiety: Loud Noises. [Online]
Available at: https://www.autismspeaks.org/expert-opinion/autism-and-anxiety-loud-noises

Avraam, R., Binur, N. & Hadad, B., 2019. Typical perceptual organization in autism: Perceptual grouping and spatial distortion. Autism Research, Volume 12.

Bergstrom, R., Najdowski, A. C., Alvarado, M., & Tarbox, J. (2016). Teaching children with autism to tell socially appropriate lies. Journal of Applied Behavior Analysis, 49, 1-6. https://doi.org/10.1002/ jaba.295

CDC, Gov, 2020. What is Autism Spectrum Disorder? [Online]
Available at: https://www.cdc.gov/ncbddd/autism/facts.html

E., P., 2012. Do autistic symptoms persist across time? Evidence of substantial change in symptomatology over a 3-year period in cognitively able children with autism. American journal on intellectual and developmental disabilities, 2(117), p. 156–166.

Garcia-Albea, E., Reeve, S., Reeve, K. F., & Brothers, K. J. (2014). Using audio script fading and multiple-exemplar training to increase vocal interactions in children with autism. Journal of Applied Behavior Analysis, 47, 325-343. https://doi.org/10. 1002/jaba.125

Ganz, J. B., Heath, A. K., Lund, E. M., Camargo, S. P. H., Rispoli, M. J., Boles, M., & Plaisance, L. (2012). Effects of peer-mediated implementation of visual scripts in middle school. Behavior Modification, 36, 378-398. https://doi.org/10. 1177/0145445512442214

Gilliam, J. E. (2006). GARS-2: Gilliam autism rating scale (2nd ed.). Austin, TX: Pro-Ed.

Hood, Stephaniea, Olsean, Ataliee. and Luczynski, Kevinc(2020). Improving accepting and giving compliments with individuals with developmental disabilities. Journal of Applied Behavioural Analysis.

Ismiarti, R. & Rohmad, Z., 2019. Communication Abilities of Autistic Children in Social Interaction. International Journal of Educational Research Review, 2(4), pp. 172-177.

Jahromi, L. B., Bryce, C. I. & Swanson, J., 2013. The importance of self-regulation for the school and peer engagement of children with high-functioning autism. Research in Autism Spectrum Disorders, 7(2), pp. 235-246.

Johnson, MDC.P. and Myers, MD, S.M. (2007). Identification and Evaluation of Children With Autism Spectrum Disorders .

Klinger, L. G., & Williams, A. (2009). Cognitive-behavioral interventions for students with autism spectrum disorders. In M. J. Mayer, J. E. Lochman, & R. Van Acker (Eds.), Cognitive-behavioral interventions for emotional and behavioral disorders: school-based practice (pp. 328–362). New York: Guilford Press.

Kaminsky, L., & Dewey, D. (2001). Siblings relationships of children with autism. Journal of Autism and Developmental Disorders, 31, 399-410. https://doi.org/10. 1023/A:1010664603039

Klinger, L. G., & Williams, A. (2009). Cognitive-behavioral interventions for students with autism spectrum disorders. In M. J. Mayer, J. E. Lochman, & R. Van Acker (Eds.), Cognitive-behavioral interventions for emotional and behavioral disorders: school-based practice (pp. 328–362). New York: Guilford Press.

Krantz, P., & McClannahan, L. (1998). Social interaction skills for children with autism: A script-fading procedure for beginning readers. Journal of Applied Behavior Analysis, 31, 191-202. https://doi.org/10.1901/ jaba.1998.31-191

Kaufman, S. B., 2020. Autistic People Make Great Social Partners if You Actually Give Them a Chance. [Online]
Available at: https://blogs.scientificamerican.com/beautiful-minds/autistic-people-make-great-social-partners-if-you-actually-give-them-a-chance/

Kimhi, Y., 2014. Theory of Mind Abilities and Deficits in Autism Spectrum Disorders. Topics in Language Disorders, Issue 34, pp. 329 - 343.

Lord,*, C., Amaral, DavidG. †, Cook, EdwinH. *& Bennett, L. (2000). Autism Spectrum Disorders.

Lord, C., Elsabbagh , M., MD, Baird, P. b, Prof Gillian and Veenstra-Vanderweele, J. (2018). Autism spectrum disorder.

Leblanc, Lindaa and Coates, Andream(2003). Using video modeling and reinforcement to teach perspective taking skills to children with autism

Marathe, A. & Sengupta, K., 2020. Perceptions, attitudes and practices of physicians regarding use of complementary and alternative medicine in autism spectrum disorder. International Journal of Contemporary Pediatrics, Volume 8, p. 151.

Mayo Clinic Staff, 2018. Autism spectrum disorder. [Online] Available at: https://www.mayoclinic.org/diseases-conditions/autism-spectrum-disorder/symptoms-causes

McCormack, G. et al., 2020. Primary Care Physicians' Knowledge of Autism and Evidence-Based Interventions for Autism: A Systematic Review. Review Journal of Autism and Developmental Disorders, 7(9).

nidcd.nih.gov. (n.d.). Autism Spectrum Disorder: Communication Problems in Children.

Peters, Lindayc and Thompson, Rachel (2015) Teaching children with autism to respond to conversation partners' interest. Journal of Applied Behavioural Analysis

Priya, A. (2020). Case Study Methodology of Qualitative Research: Key Attributes and Navigating the Conundrums in Its Application. *Sociological Bulletin*, [online] 70(1), pp.94–110. doi:https://doi.org/10.1177/0038022920970318.

Virolainen, S., Hussien, W. and Dalibalta , S. (2020). Autism spectrum disorder in the United Arab Emirates: potential environmental links.

Welsh, F., Najdowski, Adelc. and Straussa, D. (2019). Teaching a perspective-taking component skill to children with autism in the natural environment.

Wichnick-Gillis, A. M., Vener, S. M. & Poulson, C. L., 2019. Script fading for children with autism: Generalization of social initiation skills from school to home. JOURNAL OF APPLIED BEHAVIOR ANALYSIS, Issue 52, p. 451–466.

Williams White, S., Koenig, K., & Scahill, L. (2007). Social skills development in children with autism spectrum disorder: A review of the intervention research. Journal of Autism and Developmental Disorders, 37, 1858–1868. https://doi.org/10.1007/ s10803-006-0320-x.

Appendix

A. Ethics form

Research ethics form self-assessment

Application for approval of research activity involving human subjects, personal data, or confidential material

This application form is to be used by researchers seeking approval from the Research Ethics Committee.

Research that involves human subjects, personal data, or confidential material, and is associated with The British University in Dubai, cannot begin until ethical approval has been obtained.

- Section I is a general research identification table.
- Section II is for the details of the ethical matters your research might involve and the necessary steps you are planning to take to address them.
- Section III is an ethics checklist that will help you identify your research risk level. If you answer 'Yes' to any one of the high risk statements, then your research is High Risk. If you answer 'Yes' to any one of the medium risk statements, and 'No' to all high risk statements, then your research is Medium Risk. If you answer 'No' to all high risk and medium risk statements, then your research is Low Risk.

If you have documents related to the ethical considerations of the research such as, for example, a consent letter, evidence of external approval, questionnaire samples or interview questions, you can enclose them with this form before submission.

1. **Research identification**

Name	Vani Kumar
Faculty/Programme	
Contact number	0562358651
Email	
Research type	□ Research project □ Doctoral/Masters research **R Module assignment**
Research title	
Date	
Submitted to (name)	□ Faculty nominated member (research projects): □ Director of Studies (doctoral research): **R Dissertation supervisor (Masters research):** □ Module coordinator (module assignment):

2. **Research ethics details**

Background and rationale for study (this should be sufficient to justify the proposed research). Aims and objectives of the research (or the research question/s) and potential benefits of proposed research: 500 words max)
Autism spectrum disorder (ASD) is a syndrome that presents with a wide variety of symptoms, the main being poor eye contact and lack of social skills. Children may also present with delayed speech and language development. Children with Autism also have various behavioral challenges. The learning, thinking and problem-solving abilities are widely affected and can range from highly intelligent to undesirably deficient. Autism is a condition that highly affects the social life of a person because of development and cognitive problems. The concept of the theory of mind is used in the psychological area of autism. This theory states that there exist some gaps in the reasoning made about mental states. This concept generally means that a person is aware of the mental state of the person in front of you. Many studies have fought that autistic people do not have this concept in their mind because of the other psychological issues which cloud their judgment. The people who have the least communication skills must have the problem as well of missing thought of mind. Many researchers have used Script fading procedures to train children and adults with autism to learn social behavior. The script fading process uses audio prompts which are given to the participants and they have to hear them repeatedly so that they can learn language skills and some amount of interaction. Other than audio scripts, text script have also been used to help individuals with autism learn conversation skills. The main aim of fading the script (text or audio) would be generate several unscripted social interactions. Previous research has shown that script fading has indeed increased the number of unprompted interactions. The script fading concept has been previously used by Wichnick-Gillis in their research which gave the result that the more the participants interacted with siblings, the more they were able to improve their skills . Teaching conversation or communication skills to children with Autism will definitely help their social skills and

also inclusion into society. The research will help the child to improve and also bring a change in the lives of autistic children in the future if the research is successful. This research method will be used to determine the areas where the child lags the most as well as determining if the child is shy or has fears of communication
Main ethical consideration(s) of the research (the ethical matters your research may involve)
-Will be interviewing teachers and parents who have worked with the child on the Autism spectrum. The child who has been taught conversation skills will not be involved in this research. The data will be collected by conducting semi structured interviews of parents and teachers of the child on the spectrum.
Methods of data collection (outline in detail how data will be collected and attach a copy of any questionnaires, interview schedules or observation guidelines to be used: 400 words max)

The participant observation analysis is used by researchers to determine the behaviorism of the patient. This type of observation is successful for the research which requires some kind of case study to be presented, or an experiment to be conducted on a human being. This observation method is used by various researchers for particular answers in the results.

Population

The population chosen for this research is autistic people. The children specifically are targeted in this research and they become the overall population.

Sampling Size

The sampling size is one child because this research case study is being held on an eight-year-old who has autism. The research conducted on this child will be further used to determine a treatment for other autistic children.

Sampling Technique

The sampling technique used is the semi-structured interview method in which the teachers and parents will be interviewed.

Collection of Data

The data will be collected in the form of written and digital recordings.

Data Analysis

The data analysis will be done in the form of written answers.

Recruitment of participants

(outline the number and type of participants involved; give details of how potential participants will be identified and invited to take part in the study; and how informed consent will be obtained: 300 words max)

This research will be a case study of 1 child under the Autism spectrum. The participants will be the teachers who work with the child and parents of the child who is being taught conversation skillsin a private center in Dubai.

Please attach a copy of your information sheet(s), draft materials such as interview questions etc. and consent form as well as indication of planned time of issue/use. If you are not using a consent form, please explain why.

□ Attached

Potential adverse effects on participants and steps to deal with them

(outline if you anticipate any potential harm or negative consequences including psychological stress, anxiety or upset which may be induced by the study, and the steps to be taken to address them)

Not Applicable

Steps to be taken to ensure confidentiality of data (outline steps to ensure confidentiality, privacy and anonymity of data during collection, storage and publication. Specifically identify any confidential or personal information, and/or any other party's protected intellectual property which you need to use and safeguard)
Steps to be taken to ensure financial and commercial propriety (specifically identify any external funding or significant third-party financial involvement with the research)
Not Applicable
Other plans to address a particular ethical matter not mentioned above

3. **Research ethics checklist**

If you answer 'Yes' to any one of the high risk statements, then your research is High Risk. If you answer 'Yes' to any one of the medium risk statements, and 'No' to all high risk statements, then your research is Medium Risk. If you answer 'No' to all high risk and medium risk statements, then your research is Low Risk.

High Risk	
Will consent be coerced out of participants by those who would likely benefit from the research?	□Yes □**No**
Will it be necessary for participants to take part in the study without their knowledge and consent at the time?	□Yes □No
Will the study involve some form of invasion of privacy?	□Yes □No
Is discomfort or harmful impact to participants likely to result from the study?	□Yes □No
Is there a possibility that the safety of the researcher may be in question?	□Yes □No
Will the research require the researcher to be deceptive or dishonest with the participants?	□Yes □No

Will financial inducements (other than reasonable expenses and compensation for time) be offered to participants?	□Yes □No
Will the research have negative intrusive physical or psychological effects on the participants?	□Yes □No
Will the names of the participants or the institution appear in the research?	□Yes □No
Does the research involve the condition of destroying recorded data after it is used?	□Yes □No
Medium Risk	
Will the research involve governmental institutions or participants such as, for example, the military or the judiciary?	□Yes □No
Will the study involve discussion of sensitive or potentially sensitive topics and issues?	□Yes □No
Does the research involve potentially vulnerable participants (for example children, prisoners, or people with disabilities)?	□Yes □No
Does the research involve participants that are unable to give consent?	□Yes □No
Will the research involve administrative or secure data that requires permission from the appropriate authorities before use?	□Yes □No

Will research involve the sharing of data or confidential information beyond the initial consent given?	□Yes □No

Risk level identified	□ Low □ Medium □ High

The researcher undertakes not to deviate from the original consent granted by the University's Research Ethics Committee. The researcher bears full and sole responsibility for any deviation from this consent and all consequences arising from such deviation. The researcher waives all right of appeal in the event of any penalties applied by the University arising from such deviation.

Declaration by the Researcher:

Having read the University's Research Policy, I declare that the information contained herein is to the best of my knowledge and belief accurate.

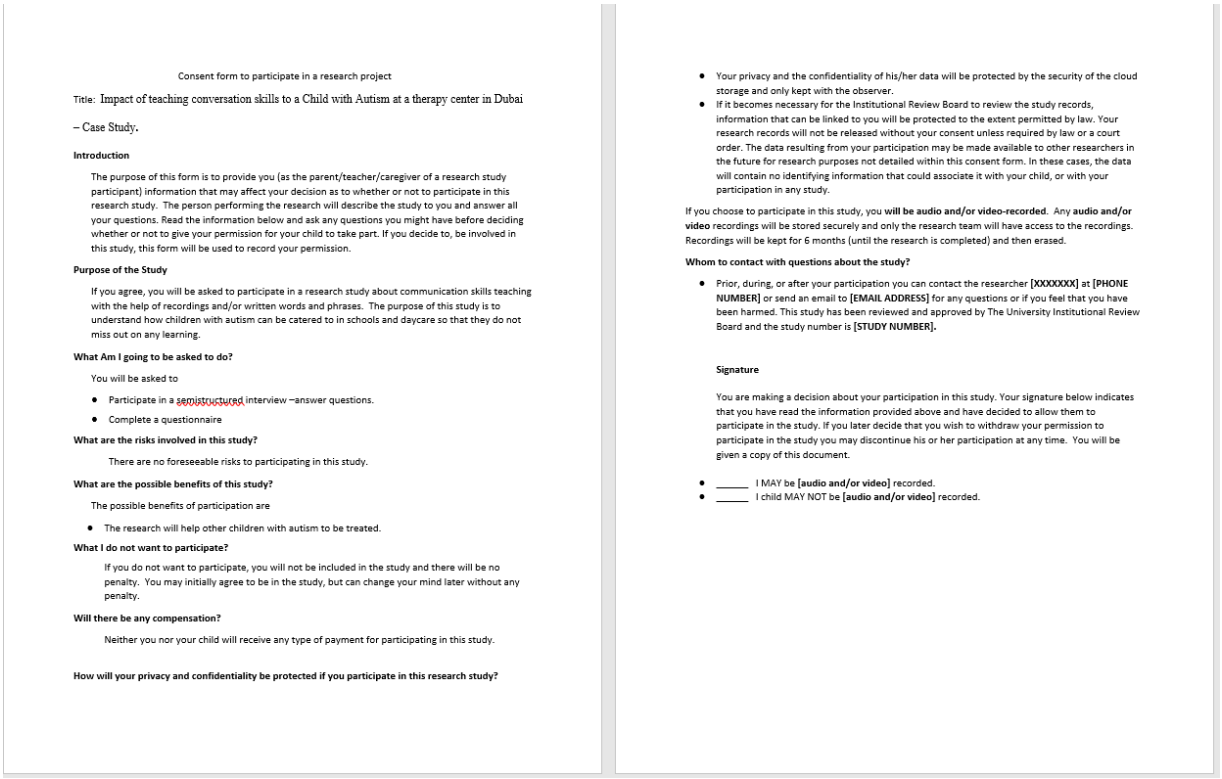
I am satisfied that I have attempted to identify all risks that may arise in conducting this research and acknowledge my obligations as researcher and the rights of participants. I am satisfied that all researchers (including myself) working on the project have the appropriate qualifications, experience and facilities to conduct the research set out in the attached document and that I, as the lead researcher, take full responsibility for the ethical conduct of the research in accordance with subject-specific and University Ethical Guidelines (Policies and Procedures Manual), as

well as any other condition laid down by the Research Ethics Committee. I am fully aware of the timelines and content for participants' information and consent.

Name: _____Vani Kumar_____

Signature: _____vani_____ Date: ___10/5/23___

B. Consent form



Consent form to participate in a research project

Title: Impact of teaching conversation skills to a Child with Autism at a therapy center in Dubai – Case Study.

Introduction

The purpose of this form is to provide you (as the parent/teacher/caregiver of a research study participant) information that may affect your decision as to whether or not to participate in this research study. The person performing the research will describe the study to you and answer all your questions. Read the information below and ask any questions you might have before deciding whether or not to give your permission for your child to take part. If you decide to, be involved in this study, this form will be used to record your permission.

Purpose of the Study

If you agree, you will be asked to participate in a research study about communication skills teaching with the help of recordings and/or written words and phrases. The purpose of this study is to understand how children with autism can be catered to in schools and daycare so that they do not miss out on any learning.

What Am I going to be asked to do?

You will be asked to

- Participate in a semistructured interview –answer questions.
- Complete a questionnaire

What are the risks involved in this study?

There are no foreseeable risks to participating in this study.

What are the possible benefits of this study?

The possible benefits of participation are

- The research will help other children with autism to be treated.

What I do not want to participate?

If you do not want to participate, you will not be included in the study and there will be no penalty. You may initially agree to be in the study, but can change your mind later without any penalty.

Will there be any compensation?

Neither you nor your child will receive any type of payment for participating in this study.

How will your privacy and confidentiality be protected if you participate in this research study?

- Your privacy and the confidentiality of his/her data will be protected by the security of the cloud storage and only kept with the observer.
- If it becomes necessary for the Institutional Review Board to review the study records, information that can be linked to you will be protected to the extent permitted by law. Your research records will not be released without your consent unless required by law or a court order. The data resulting from your participation may be made available to other researchers in the future for research purposes not detailed within this consent form. In these cases, the data will contain no identifying information that could associate it with your child, or with your participation in any study.

If you choose to participate in this study, you **will be audio and/or video-recorded**. Any **audio and/or video** recordings will be stored securely and only the research team will have access to the recordings. Recordings will be kept for 6 months (until the research is completed) and then erased.

Whom to contact with questions about the study?

- Prior, during, or after your participation you can contact the researcher **[XXXXXXX]** at **[PHONE NUMBER]** or send an email to **[EMAIL ADDRESS]** for any questions or if you feel that you have been harmed. This study has been reviewed and approved by The University Institutional Review Board and the study number is **[STUDY NUMBER].**

Signature

You are making a decision about your participation in this study. Your signature below indicates that you have read the information provided above and have decided to allow them to participate in the study. If you later decide that you wish to withdraw your permission to participate in the study you may discontinue his or her participation at any time. You will be given a copy of this document.

- _____ I MAY be **[audio and/or video]** recorded.
- _____ I child MAY NOT be **[audio and/or video]** recorded.

C. Communication and social skills questionnaire

Communication and Social Skill Questionnaire

1. Does your child know to respond to greetings?
2. Does your child initiate greetings?
3. Does your child maintain eye contact during conversation?
4. Does your child interpret nonverbal cues (gestures, body language, facial expressions)?
5. Does your child take turns during conversation?
6. Does your child interpret the tone of language?
7. Does your child talk too little?
8. Does your child ask questions?
9. Does your child talk about his interests?
10. Does your child know how to end conversations appropriately?
11. Can he identify emotions?
12. Can he use appropriate approach to gain attention?
13. Can he respond using more than1-2 sentences?
14. Can he stay on topic?
15. Can he give compliments?
16. Can he respond to compliments?

Comments

D.Questions for semi structured interview

Interview Questions

1. How comfortable is SV in interacting with his peers?
2. Is he able to continue conversations with peers?
3. Is he able to converse with new friends or people he just met?
4. Does he like interacting with people?
5. Does he use new words or phrases in his conversation (other than those used to teach)?
6. What other change have you noticed?