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Teachers' perceptions of the use and effectiveness of Social Stories™ in the development of social skills for children with Autism Spectrum Disorder (ASD) in Saudi Arabia

Faihan Eqab Alotaibi

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Declaration of Original Authorship

I confirm that this is my own work and the use of all material from other sources has been properly and fully acknowledged.

Faihan Alotaibi

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In the Name of Allah, the Most Beneficent, the Most Merciful!

Abstract

The aim of this study was to analyse the comments and judgments of special education teachers concerning the use and efficacy of Social Stories™ as a social skills intervention for children with Autism Spectrum Disorder (ASD) in mainstream boys' schools in Riyadh, Saudi Arabia. Specifically, the study focused on the usefulness of Social Stories™ in improving three types of daily social interaction which children with ASD encounter in mainstream schools in Riyadh: greeting people, playing with friends, and talking with friends at snack time. The study was informed by Vygotsky's socio-cultural theory (Vygotsky, 1978), and was founded on the hypothesis that Social Stories™ can serve as an intervention to improve the social capacity of children with ASD in a supportive school setting

The study explored the perceptions of 15 special needs teachers' using semi-structured interviews and focused on three case studies of children with ASD at two mainstream boys' schools in Riyadh, Saudi Arabia. The interviews provided qualitative information about the use of Social Stories™ for children with ASD. The information gained was categorised into eight themes: the concept; source of Social Stories™; methods of display; use as a social intervention; benefits and drawbacks; barriers to use; cultural and contextual considerations; and factors contributing to best use. The case studies also tracked the children's social skills over a period of 15-17 weeks and were used to evaluate the efficacy of Social Stories™ as a behavioural skills intervention.

Overall, the findings from the interviews and the case studies found that Social Stories™ displayed some effectiveness in improving the social skills of children with ASD, whether the stories were used independently or combined with other methods. The evidence indicated that the teachers were clear about the purpose of Social Stories™ as well as possible benefits, drawbacks and barriers around their use in the classroom. They were aware of specific cultural considerations influencing the implementation and acquisition of the stories. They also recognised various approaches to incorporating Social Stories™ in their classrooms and considered the children's specific educational needs and interests when using them.

The findings of the study contributed to understanding of the use of Social Stories™ in the Middle East in general and in Saudi Arabia in particular. This study suggests a tentative framework for evaluating Social Stories™ to ensure their appropriateness for the culture and environment of Saudi Arabia, and provides a piloted mechanism to evaluate both the written and visual content of a given Social Story™ under that cultural lens. Suggestions based on

the study are offered to both the Ministry of Education in Saudi Arabia and to teachers working with children with ASD (in Saudi Arabia and beyond) for the development of best practices in the use of Social Stories™ as a behavioural intervention. Suggestions for future research are also discussed.

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Chapter 1: Introduction

1.1 Context of the Research

1.1.1 Personal motivation

In 2011, after five years of teaching children with Autism Spectrum Disorder (ASD) in mainstream boys' schools in Saudi Arabia, I participated in a training programme in Dubai, in the United Arab Emirates, which focused on teaching social skills to children with ASD. During the programme, I was particularly inspired by Social Stories™, which I then began to apply in my classes in Saudi Arabia. I started by using stories found online without any modifications, but over time I developed my own stories, using the names of the children I was teaching as the main characters of the story. The children related to the narratives and scenarios in the stories and reacted positively, learning new behaviours, which helped them in developing social skills such as seeking interaction with peers and teachers and participating more freely in play time.

As a result, I resolved to further investigate the potential of Social Stories™ to support social skill development in children with ASD. Although my own experience of the use of Social Stories™ was favourable, it was important to investigate the efficacy of the method in more schools and with more teachers.

The notion of using Social Stories™ to support children with ASD is relatively new in Saudi Arabia. A recent study by Zeina, Al-Ayadhi and Bashir (2014), which listed various methods of intervention used in Saudi Arabia, did not include Social Stories™, suggesting a lack of awareness or a lack of reporting about their use in the country. Furthermore, there is currently a lack of available Social Stories™ that are applicable to and appropriate within Saudi Arabia's distinctive socio-cultural environment, as those available online or in bookstores largely reflect Western influences and interpretations of situations occurring in daily life. This study of teachers' perceptions of how Social Stories™ can be used as a learning and socialising tool could therefore serve to raise awareness of this method, further motivating and inspiring the development of stories that would reflect the cultural context of Saudi Arabia.

1.1.2 Research background

According to the Diagnostic and Statistical Manual of Mental Disorders (*DSM-5®*; American Psychiatric Association [APA], 2013, p. 31), Autism Spectrum Disorders (ASD) represent a cluster of neurodevelopmental disorders in which individuals show "characteristic deficits of social communication" which are "accompanied by excessively repetitive behaviors [sic], restricted interests, and insistence on sameness." An individual with ASD could have limited speech, for example. Alternatively, they may be extremely verbal, but struggle with the 'rules' of conversation. A child with ASD may have problems with 'taking turns' or noticing the emotions of peers; that someone may be feeling sad, for instance (Bernier & Gerdts, 2010). Another characteristic of ASD is 'rigidity' (Cotugno, 2009). In other words, a person with ASD finds the world confusing and consequently wants to control his or her environment, for example by wearing the same, familiar clothes, eating the same foods or retreating into a world of his/her own special interests (National Autistic Society [NAS], 2016). A diagnosis of autism is possible before the age of three years (Landa, 2008). More details about ASD are provided in Chapter 3 (Literature review).

Several studies have attempted to gauge the prevalence of ASD across the world. In 2008, the approximate prevalence of ASD among children aged 8 years was 1 in 88, based on 14 monitored sites in the USA (Centres for Disease Control and Prevention, 2012). Taylor, Bick and MacLaughlin (2013) reported that the annual prevalence of ASD in the United Kingdom remained steady from 2004 to 2010 at approximately 3.8/1000 boys and 0.8/1000 girls (all aged 8 years). The 2012 Survey of Disability, Ageing and Carers (SDAC), performed in Australia, indicated that 0.5% (~115000 Australians) had autism, an increase of about 79% over the number reported in the 2009 survey (Australian Bureau of Statistics [ABS], 2016). In a study based in the Gulf Cooperation Council in the Middle East, Kelly and colleagues (2016) reported that the prevalence rates of autism published by the Kingdom of Bahrain, Sultanate of Oman, and the United Arab Emirates were 4.3 per 10,000, 1.4 per 10,000 and 29 per 10,000 people respectively. Al-Zahrani (2013) observed that 3.5 out of every 1000 children aged 7–12 years in the Taif district, Saudi Arabia, were autistic. The principal effect of ASD on a child's development is centred on reduced social capability, difficulty with social communication, and an inability to recognise and display emotions that meet with socially accepted norms of conduct (APA, 2013). When required to interact with teachers and/or peers, such children are frequently

either ill at ease or unable to do so successfully. People are seen as 'puzzles', whether those people are close to them or are strangers. The intuitive understanding that non-ASD people have about 'how people work' does not exist for those with ASD (Brewer et al., 2016). They may fail to understand the subtler nuances of everyday communication and develop acceptable reactions (Fitzgerald & Kumra, 1998; Kaweski, 2011). This lack of social proficiency can prevent school readiness and harm the child's chances of achieving anticipated or age-related educational results (Lynch & Simpson, 2010; McClelland & Morrison, 2003). These elements support the diagnosis and subsequent assistance of children with ASD (More, 2010).

To achieve their purpose, all forms of effective teaching and learning should be up to date and customised to meet the needs of the individual child. A similar approach is required concerning interventions for ASD. 'Interventions' typically involve coaching children with autism to help them acquire social skills (Weiss, 2013). Teachers encounter significant challenges in engaging children in interactions and supporting them to become socially receptive. Consequently, various social intervention methods have emerged to help develop and enhance children's capability to engage and respond appropriately in diverse social circumstances (Graetz, Mastropieri, & Scruggs, 2009; Sansosti, Powell-Smith, & Kincaid, 2004; Sansosti & Powell-Smith, 2006). Social Stories™ are believed to be successful tools (Gray, 1998; Reynhout & Carter, 2009) partly because they portray social situations through a format that is accessible to those with ASD (Reynhout & Carter, 2006). The method uses pictorial aids to improve recognition of various social conditions, and in that way 'scaffold' (Vygotsky, 1978; 1976) comprehension in children with ASD (Gray, 1998).

Crozier and Sileo (2005) observed that interactive interventions using Social Stories™ support the development of desirable conduct and social capabilities in children with ASD. Reynhout and Carter (2006) evidenced that Social Stories™ can be integrated into other forms of intervention to foster socialisation and deal with behavioural issues. Since children with ASD experience certain anxieties in the learning environment, Social Stories™ aid them by offering an alternative approach to improve their social capabilities. Carol Gray, an authority on ASD, developed and promoted the use of Social Stories™ to encourage children with ASD to "read, interpret, and respond effectively to their social world" (Gray, 1994, p. 5). Typically, a Social Story™ is a very brief personalised story/narrative that follows specific structure. Social Stories™ assist children with ASD

to adapt to specific but common circumstances in their day-to-day existence by discussing social activities and offering prompts and reactions which the children can use. Consequently, Social Stories™ have two key benefits: aiding children with ASD during social communications, and assisting the individuals speaking and interacting with the child.

Moyes (2001) notes that Social Stories™ interventions are useful due to their ease of use that is, they are a form of intervention that can be incorporated easily into an existing school situation with little exertion on the teacher's part. I describe this further in my review of the literature (Chapter 3). Furthermore, they are suitable for use in one-to-one settings and can be personalised when used with a specific child. Scattone, Wilczynski, Edwards, and Rabian (2002) observed that this intervention is especially helpful because it can integrate with other teaching and learning events at school. Furthermore, in contrast to other interventions such as discrete trial training (DTT), pivotal response training (PRT) and functional equivalence training, Social Stories™ have been found to be less time-consuming and less labour intensive (Scattone et al., 2002). Their use as an intervention was also advocated by Kuttler, Myles, and Carlson (1998), who observed that they were effective even where other approaches to improving social skills had failed, including stickers, token charts, and social skills coaching. In general, Social Stories™ contain sentences which support children who resist focused directives, for example, "My friends are happy when I do not grab snacks from them." The narratives demonstrate situations the children face every day and suggest how the people in the story would respond. A Social Story™ depicting how to pet a kitten, for example, could use visuals of the child with ASD accompanied by several sentences describing the activity. Also, Social Stories™ can contain a variety of familiar individuals, such as peers, teachers and parents, as participants in the desired behaviour.

Moyes (2001) demonstrated that much of the effectiveness of Social Stories™ is attributable to their definite approach to instruction, which can support the correction of faulty attitudes, employ visuals (a strong point for many children with ASD), and be used by different people (e.g., teachers or parents) in various settings (e.g., classrooms, play areas, and cafeterias). They also offer an accessible narrative that tackles the challenges that children with ASD encounter in everyday communication. Social Stories™ have therefore been reported to be successful for a variety of purposes. They not only support teachers' pedagogical strategies in the classroom, but also provide modelling for children

with ASD to cultivate more socially appropriate conduct and prevent anxiety-driven responses such as head banging (Gray & Garand, 1993) when encountering social situations such as the first day of school or first interaction with a new teacher or classmate.

Another factor that must be taken into consideration is that culture, in general, influences the way an autistic child's disability is viewed by his/her parents (Chun & Fisher, 2014). Chun and Fisher (2014) stated that the parents of individuals with ASD from different cultural and language backgrounds viewed their children's disability through the eyes of their culture. Consequently, parents' opinions and support of services (Ku & Bryce, 2011) and their expectations (Matson, Worley, Kozlowski, Chung, Jung, & Yang, 2012) are influenced by culture. ASD may be defined by parents according to "their cultural values, personal experiences, upbringing, family attitudes, friends, and community" (Hebert & Koulouglioti, 2010, pp. 150-151) as the cause of ASD is yet to be conclusively determined. A lack of "effective and inclusive social support" for children with ASD (Ku & Bryce, 2011, p. 497) can be caused by conflicts between lived and perceived experiences due to parental anticipations and cultural norms (Matson et al., 2012).

Muslim parents of children with ASD tend to raise them in accordance with Islamic doctrine and prepare them to fit into the customs and routines of social, religious and linguistic activities of their homes and communities. They may thus resist an intervention if they feel it is not congruent with their cultural beliefs (Ennis-Cole et al., 2013; Jegatheesan et al., 2010). Moreover, a high level of parental involvement is often apparent in Muslim families. A mother may accompany the child to school to ensure that the children are securely brought into the teacher's care, for example, or a parent might pause for a while at school to ensure that their child is being well looked after (Jegatheesan et al., 2010). There is also a high level of support from the community for people with disabilities (Morad, Nasri, & Merrick, 2001). Furthermore, Muslim parents may feel that ASD interventions could undermine the child's ability to live 'normally' in accordance with their expectations, especially if they feel that the diagnosis or intervention focuses on, and therefore in their view, exacerbates the child's weaknesses rather than his/her strengths (Ennis-Cole et al., 2013; Jegatheesan et al., 2010). It can therefore be inferred that Muslim parents may prefer to believe that such necessary interventions will not benefit the child and may thus resist their use in school or at home. The acceptance of

Social Stories™ as an intervention in such cultures will therefore depend on whether the Social Story™ can be tailored to their beliefs.

The current study focuses on teachers' perceptions of the effectiveness of Social Stories™ in facilitating improved social capabilities in children with ASD. Consequently, it concentrates on the role of teachers in using these Social Stories™ in the classroom. It is therefore essential to examine how teachers develop and employ Social Stories™, ensure that the children comprehend them, and assess their influence on the children's social skills (Crozier & Sileo, 2005). This allows the researcher to establish how the teachers' perceptions of the Social Stories™ compare with the children's perceptions and responses (Gray, 1995). A socio-cultural perspective is used, as social and culturally-specific opinions about ASD are considered when assessing the effectiveness of the interventions (Kuoch & Mirenda, 2003).

1.2 Current Use of Social Skills Interventions

Progress has been made, especially in Western nations, in assimilating educational interventions for people with disabilities, especially in the recent past. In 1997, the Individuals with Disabilities Education Act (IDEA; APA, 2015) offered a series of direct interventions that have benefited people with ASD. Such methods have become vital for children with ASD, and are incorporated into most approaches to support the development of social capabilities. Skokut et al. (2008) list some of the methods involved in supporting children with ASD: Applied Behavioural Analysis (ABA), Discrete Trial Training (DTT), Pivotal Response Treatment (PRT), Learning Experiences: an alternative programme for pre-schoolers and parents (LEAP), The Picture Exchange Communication System (PECS), Incidental Teaching, The Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH), and others. Studies have found that these interventions can help children with ASD improve their non-verbal and expressive skills, adapt behaviour to match social norms and expectations and build educational abilities such as functional academic skills (e.g., reading, writing, maths, and problem-solving), among other benefits (Frieden, 2004; Zeina et al., 2014, p. 527).

These intervention methods are intended for use in schools. School authorities, that offer a specific intervention method, are, however, encouraged to obtain specialist training and resources to apply the chosen method reliably (Skokut et al., 2008). Studies have found

that an eclectic mix of elements from numerous intervention methods may be less effective than a single method in improving the social capabilities of children with ASD (Howard, Sparkman, Cohen, Green, & Stanislaw, 2005). Nevertheless, studies have established that no intervention used alone is wholly effective for all children with ASD (Lord & McGee, 2001; Stichter et al., 2007). This is not surprising, as one size does not fit all (Boyle & Charles, 2013); each individual with ASD encounters diverse challenges (Frith, 2008), therefore no single teaching strategy can be expected to encompass them all. The most beneficial interventions therefore offer a variety of options. Furthermore, behavioural improvement may not occur immediately. Schopler and Mesibov (1994) observed that at the start of an intervention a child's conduct often worsens before improving, but longer term, they can progressively assist with a variety of negative behaviours, such as reducing damage to property and disruption in the classroom.

Direct face-to-face or one-to-one interventions have been found to be particularly effective in embedding new practices, such as addressing and acknowledging peers and elders, civil dialogue, and common social activity. This intervention begins with the teacher 'scaffolding' and supporting the child to participate in a specific behaviour, for example shaking hands, using cues until the child can effectively accomplish it without prompting. When a child is able to carry out the desired activity, the teacher reduces physical assistance and persuades the child to do it on their own, using verbal prompts and limited physical aid until the child can achieve it unassisted. This verbal guidance also decreases, as the ultimate goal is that intervention is no longer required. A child that achieves this ability to learn new behaviours can progress over the longer term, potentially including use of other methods, until s/he can fully demonstrate the behaviour unaided. This type of intervention is typically accomplished via word lists, pictures and audio aids (Schopler & Mesibov, 1994). Whilst the internalisation of a new behaviour will require a lengthy intervention, as observed by Scott, Clark, and Brady (2000), it can ultimately save time and effort for teachers and other caregivers. Teachers can use Social Stories™ as a form of intervention to replace the physical assistance of an adult, as the story can outline the activity to be undertaken using recognisable cues for the child, depending on the type of autistic behaviour the child demonstrates.

1.3 Saudi Arabia in Context: New challenges to interventions for ASD

Interventions for children with ASD have made great progress in the UK (Almasoud, 2010) and the USA (Hill & Sukbunpant, 2013). In these countries, the distribution of services for children with ASD is widespread across the different states and counties, consequently available to the entire population (Almasoud, 2010; Hill & Sukbunpant, 2013). In contrast, Saudi Arabia has lagged behind and its intervention approaches remain underdeveloped. Access to early intervention services for children with ASD is limited to the major cities (Riyadh, Jeddah, and Al-Dammam) and offered only by the private sector. Consequently, not only there is a gap between the need for services and available provision, but also families of children with ASD face considerable financial burden, which may delay, reduce or prevent access (Almasoud, 2010). Interventions for individuals with ASD in Saudi Arabia are limited but include TEACCH, ABA, Early Intensive Behavioural Intervention (EIBI), Hawaii Early Learning Profile (HELP), Psychoeducational Profile: Third Edition (PEP-3), PECS, and one-to-one support (Zeina et al., 2014). All these approaches require specialist, costly and long-term training which under the current provision model in Saudi Arabia, schools and services find hard to implement. Also, evidence for the use of Social Stories™, which are more manageable and cost-efficient, is limited in Saudi Arabia. Teachers and advocates of this intervention are not presently being supported with the required training to implement it appropriately and proficiently. Moreover, Social Stories™ have typically been developed in the West in the Western socio-cultural context, which is quite distinct from the Saudi Arabian culture.

The absence of culturally specific resources for children with ASD means that teachers may find it more difficult to provide interventions related to social skills. Private schools have shown some progress with personalised interventions in Saudi Arabia (Zeina et al., 2014) due to parents' concerns that their children develop to the best of their ability and the demarcation between 'scoring grades' and 'learning development' within the Saudi education context. Despite this, however, the lack of teachers experienced in using Social Stories™ and the alien cultural context of the existing Social Stories™ creates challenges for teachers assisting children with ASD.

1.4 Statement of the Problem

ASD is now increasingly recognised in both the West and the Middle East. As a result, it is imperative that teachers and children are provided with appropriate strategies and techniques for supporting its range of behavioural and learning issues (Gantman, Kapp, Orenski, & Laugeson, 2012). While several approaches exist, no single intervention has been proven to succeed for every child with ASD (Simpson et al., 2005) because ASD encompasses a spectrum of characteristics. This is a unique challenge in countries such as Saudi Arabia, where the limited but specialised intervention schemes in use, such as TEACCH, ABA, and EIBI, have been developed in the West.

Regarding Social Stories™, Test, Richter, Knight, and Spooner (2011) observed that descriptions of several interventions using Social Stories™ did not utilise the stories as a stand-alone intervention, but rather as one component in a wider support package for an individual with ASD. In their opinion, the favourable outcomes were nonetheless no different whether used alone or as part of a package. It could therefore be assumed that the Social Stories™ were mainly responsible for the favourable outcomes of the intervention package (Test et al., 2011), but this must be tested by further study (Almond, 2012). My study aims to provide insights to support the effectiveness of Social Stories™ as a stand-alone intervention.

As interventions developed outside the country of use cannot reflect that country's unique cultural, religious and societal characteristics, researchers and educators from a variety of backgrounds must assess the effectiveness of such approaches and establish how best to modify those interventions and strategies to suit the specific local context. With the growing popularity of Social Stories™ in Asian and Middle Eastern countries, these stories require modification for effective use in non-Western countries.

1.5 Research Significance

Examination of the prevailing research on ASD in Saudi Arabia reveals that the majority of the research has been quantitative, with a heavy dependence on descriptive statistics (Haimour & Obaidat, 2013; Al-Zaalah et al., 2015). Consequently, this study is significant because qualitative studies related to the use of social skills interventions by special education teachers in mainstream schools are especially uncommon in the Saudi Arabian context, even in the capital. This study provides a detailed analysis of the experiences of

special education staff working with children with special educational needs (SEN) in mainstream schools in Saudi Arabia, in terms of the use and effectiveness of Social Stories™ upon the behaviour of children with ASD. This study proposes to be the first study to qualitatively evaluate perceptions of special education teachers in Saudi Arabia in this area. Accordingly, as the researcher, I aspire to offer valuable insights for decision-makers in the Ministry of Education (MoE) and teachers in Saudi Arabia. The findings from the study hopefully will be utilised to inform future research around this topic.

1.6 Aims of the Research

The objective of this study is to investigate the use and effectiveness of Social Stories™, as perceived by special education teachers, in promoting the learning behaviours and social capabilities of children with ASD. The study uses three Social Stories™ to help children with ASD acquire social capabilities in a school setting: (1) greeting people at school; (2) playing with friends; and (3) talking with friends during a snack break. The study utilises a sociocultural framework to identify whether teachers perceive that the effectiveness of the stories is influenced by being rooted in a different cultural context. This framework also considers the potential issues caused by the children being separated from their families, as most of the schools for children with special needs in Saudi Arabia, in Riyadh in particular, are residential. More details about the facilities for children with ASD in Saudi Arabia are provided in Chapter 2.

1.7 Research Questions

The study aims to answer the following research questions.

1. What are the perceptions of Saudi special needs teachers concerning the use of Social Stories™ in developing the social skills and positive learning behaviours of children with ASD?

2. How do Saudi special needs teachers perceive the effectiveness of the Social Stories™ in influencing behavioural changes of Saudi children with ASD?

3. What are the perceptions of special needs teachers concerning whether Social Stories™ can be enhanced by customisation to support children with ASD in the Saudi cultural context?

1.8 Overview of the Thesis

This thesis is organised into eight chapters. This chapter has provided an outline of the research. Chapter 2 provides a contextual understanding of the research setting, including the Saudi Arabian demographics, Islamic traditions and sociocultural values. It also presents the Islamic and Saudi Arabian viewpoint on disabilities in general, and then evaluates special needs education in the country and the facilities available to children with ASD. Chapter 3 provides background about ASD and reviews the recent literature on the use and effectiveness of Social Stories™ and its effect on social development. The chapter concludes with an analysis of sociocultural theory as the theoretical basis of the research project. Chapter 4 outlines the research methodology and examines research design of the study. It provides a review of the data collection method, sampling, fieldwork, challenges encountered, and a description of the pilot study. Chapter 5 describes Findings of stage one (Exploratory with interviews). Chapter 6 describes findings of stage 2 (three case studies). Chapter 7 discusses the findings in relation to the existing literature, the sociocultural framework, and the Saudi context. Chapter 8 summarises the main findings and their contribution to the body of knowledge before providing recommendations for policymakers and teachers. Finally, the limitations of the study are described, along with suggestions made to improve and extend the research.

Chapter 2: The study setting - Saudi Arabia

2.1 Introduction

This study was conducted in Riyadh, Saudi Arabia. This chapter presents the setting for the study by examining Saudi Arabian culture in depth, to demonstrate how the Saudi culture and the traditionally conservative Islamic ideas that dominate within this culture influences teachers' perceptions. The chapter will provide a detailed description of Saudi Arabia, its history, and the Islamic influence on law. The cultural and social values of Saudi Arabian society, such as the centrality of Islam, the importance of aspects such as family, gender segregation, and customs, as a crucial component in social values and the Saudi view of disability, will also be examined.

Moreover, the chapter examines the education available for children with disabilities in Saudi Arabia and the services available for children with ASD in the country. Challenges in providing inclusive education for students with disabilities in Saudi Arabia are also introduced. These contextual details are essential to comprehend the ways in which special needs education in the country is affected by Islamic ideology and by government policies. For the purpose of this study, the word 'culture' includes religious elements, social norms, practices and viewpoints that govern individuals in a given society or group of societies.

2.2 Background information about Saudi Arabia

Saudi Arabia is situated in the centre of the Middle East and the Islamic world. It is the largest nation in the Arabian Peninsula, stretching over approximately 80% of the region (Almazroui, Islam, Jones, Athar, & Rahman, 2012), and has a population of about 32 million people, 11 million of whom are of non-Saudi origin (General Authority for Statistics Kingdom of Saudi Arabia, 2016). Saudi Arabia is comprised of 13 provinces. The main cities are Riyadh, the capital; Jeddah, the port and second largest city, and Mecca and Medina, the two Islamic holy cities (Alrashidi & Phan, 2015). The constitution of the Islamic and Arab state of Saudi Arabia is derived from the Holy Quran (Al-Sayyari, 2008). The culture of Saudi Arabia is also powerfully affected by Arabic culture (Abunadi, 2013). Its national language is Arabic, while business is primarily conducted in English (ur Rahman & Alhaisoni, 2013). The next section will describe the influence of Islam on the

legislation of Saudi Arabia.

2.3 Islamic influence on legislation

In general, the legal system in Muslim countries is shaped by Sharia, or Islamic law. The word 'Islam' means 'voluntary submission to God', and followers of Islam believe that they must defer to the will of Allah by observing His rules and decrees, which are based on the Shahadah, or the statement *La ilaha illa Allah, Muhammad ur-Rasullullah:* "there is no God but Allah; Muhammad is His Prophet" (Muhamad & Muwazir, 2008, p.31). Sharia, meaning 'path' in Arabic, offers direction for all aspect of Muslim life, encompassing matters such as day-to-day practices, family and spiritual responsibilities, and monetary transactions. Sharia is principally generated from the Quran, which is Islam's primary source of religious law, and the Sunnah (Johnson & Vriens, 2011), which is drawn from the instructions, actions, comments, principles, and views of the Prophet Mohammed and is another source of sacred law. The Quran is believed to originate directly from Allah (God) and to have been communicated by the Angel Gabriel to the Prophet Mohammed. Laws founded on these sources are therefore believed to be the perfect method to officially incorporate verses from the Quran into the day-to-day lives of Muslims (Hasnain, Shaikh, & Shanawani, 2008). Furthermore, the Prophet is heralded as an equal messenger and instructor by the Holy Quran: "Just as We have sent among you a messenger from yourselves reciting to you Our verses and purifying you and teaching you the Book and wisdom and teaching you that which you did not know" (Verse 2:151; Saheeh International, 2004). Muslim scholars employ models and analogies to deal with fresh topics. Moreover, Muslim society plays a role in the definition of this religious guide by granting consent to be governed (Johnson & Vriens, 2011).

Sharia law was created many centuries after the death of the Prophet Mohammed as Islam spread across the world. As the most devout of all followers, the Prophet Mohammed was considered the example for all other Muslims. Subsequently, details of his life and sayings were assembled into what is known as the *hadith* (Arabic for 'report', 'narrative' or 'account'). *Hadith* literature flourished and expanded into diverse groups of Islamic thinking as different regions attempted to integrate local customs into Islam. The diverse groups of Islamic thinking, named after the scholars that inspired them, are divided into the Sunni schools (e.g., Hanbali, Hanafi, Shafi'i, Maliki); and the Shiite schools (e.g.,

Ja'fari, Isma'ili, Zaydi). The groups vary in the significance each provides to the foundations of Sharia, namely the Quran, *hadith*, scholars, and consent of Muslim society (Emon, 2006; Johnson & Vriens, 2011). The most traditional school of Islamic thought is the Hanbali School, which produced the Wahhabi branch that has largely been adopted in Saudi Arabia (European Parliamentary Research Service [EPRS], 2015). As a Muslim country, the official religion in Saudi Arabia is Islam, which has a profound influence on the country's legislation. The Saudi political system develops its legislation from Sharia law (Alsowoyegh, 2012).

The next section will provide a brief overview of the cultural and social values of Saudi society.

2.4 Cultural and social values of Saudi society

Helms and Cook (1999, pp. 374) define culture as "the values, beliefs, traditions, languages, rituals, and other behaviours that are passed from one generation to another within any social group..." Although a society undergoes change and consequently devises new principles and modes of conduct, its functioning is still greatly affected by its history. Thus, it is essential to understand how the Saudi social structure, practices, organisations, ethics, and values function collectively in determining the activities of Saudi children. The objective of this section is to describe the various cultural and social elements, such as faith, family and customs, and the way in which social values in Saudi Arabia are affected by these. This will further assist in comprehending the manner in which the educational process and also the use of Social Stories™, or indeed any intervention for children with ASD in Saudi Arabia, is influenced by culture as well as educational priorities in the development of social skills for children with ASD.

2.4.1 The central place of Islam

As a Islamic Arab country, it is judicious to assume that Islam has a central place in Saudi Arabia and accordingly there is evidence of its influence in all facets of Saudi culture. Islamic rules and principles are used to direct the day-to-day activities of the country and its communities and societies (Almutairi & McCarthy, 2012). In particular, social principles establish the standards by which members of society are expected to conduct themselves, while also offering a set of rules that guide individuals on how to manage their behaviour (Abunadi, 2013). Islam therefore has a greater influence on the

administration of the country than mere political convention. The level to which religion has pervaded day-to-day existence in Saudi Arabia implies that Islam itself could be seen as the dominant governing culture (Donnan, 2001). Moreover, the remarkable degree to which Saudi culture is interwoven with faith has been recognised by scholars (Idris, 2007; Nyrop, 1977).

For instance, a key aspect of Saudi culture is fatalism, which may also be attributed to Islam (Haniffa & Hudaib, 2007; Hamady, 1960). Fatalism refers to the theory that everything that takes place happens because of the will of God. This implies that an individual cannot alter his/her destiny. Fatalism promotes a sense of resignation to accepting the unanticipated and the unfamiliar. A fatalist may overcome his/her fear of the unexpected by trusting that events take place based on a pre-ordained pattern. Fatalism is founded on the fact that Muslims believe that God commands all the events that take place and that whatever happens, the destiny, triumphs, and disappointments of that event have been predetermined by God (Haniffa & Hudaib, 2007). Although this may provide the idea that a person should not pursue prospects or expend energy on his or her existence, in reality it implies that all people should yield to the will of God despite their own conduct. This attitude has repercussions for attitudes to disability; for instance, some parents of children with disabilities may consider a disability in the family to be a curse from God (Miles, 2002), while others may blame themselves, viewing a disabled child as chastisement or a trial from Allah, or as God's will (Hasnain et al., 2008).

2.4.2 Gender segregation

Saudi Arabia follows a complex system of gender segregation. By the age of seven, boys and girls are divided into firmly separate realms. Public amenities are legally segregated, meaning that men and women have different rights to avail themselves of facilities such as entry into mosques, government offices, malls or other areas frequented by the public, with women often being disadvantaged, or even being banned from using these facilities (Hill, Lunn, Morrison, Mueller, & Robertson, 2015). From an external perspective, gender segregation in Saudi Arabia is associated with public interactions between men and women. Within Saudi Arabia, however, the focus is on the notion and practice of *ikhtilat,* or gender mixing (Van Geel, 2012).

The conservative society in Saudi Arabia often uses one verse from the Quran on the topic of *ikhtilat*, which states: "Say to the believers, that they cast down their eyes […] and say

to the believing women, that they cast down their eyes" (24: 30–31). According to Huda (2009), Muslim men and women who are not married to each other or not connected by blood must not look at one another. The rationale provided is that this can cause lustful emotions and result in *zina* (adultery), which is a serious crime. If mixing of the sexes were allowed, men and women would be able to look at each other, which would directly violate the Quranic injunction (Wagemakers, 2012).

In education, segregation manifests itself in the existence of separate schools and universities and independent classrooms for males and females. In general, the educational facilities provided for girls are markedly inferior to those provided for boys; for instance, class sizes are larger, teachers are less trained or hold inferior degrees, and admittance to university libraries is restricted. Men may be permitted to teach women's classes, but such instruction is never face-to-face, rather performed using closed-circuit television, thereby avoiding direct personal interaction between the teacher and the children (Hill et al., 2015).

In terms of work, men and women who are not related, (and therefore not forbidden to marry by the rules about incest), are barred from interacting in individual or group settings. Women may go outside the home to work, provided such work does not involve interaction with unrelated men (Aljaaly, 2012).

These restrictions on interaction between the genders pose a quandary for male researchers who need to investigate issues, such as this study of the perceptions of teachers concerning the efficacy of social skills interventions using Social Stories™ in Saudi Arabia. Consequently, the lack of access to female teachers imposes the limitation that only male teachers' perceptions could be collected and analysed in this study. Moreover, the knowledge of the restrictions governing gender interactions are useful from the perspective of the design of Social Stories™ as it is imperative that the stories do not depict incorrect or inappropriate interactions between the genders as this could result in communicating inappropriate social behaviour to students with ASD in Saudi Arabia.

2.4.3 Customs

Traditional customs form another important element in Saudi society, as these customs have retained the importance of their historical legacy in today's world. An awareness of the various customs is significant in the context of this study, as this will aid the reader in

understanding why Social Stories™ must be examined through a cultural lens to be effective in the Saudi Arabian context. The following sub-sections will examine a few prevalent customs in Saudi culture.

2.4.3.1 Greetings

It has been reported that one of the most common use of Social Stories™ with persons with ASD is related to the improvement of their greeting behaviours (e.g., Graetz et al., 2009). Hence, detailed information is provided to draw the reader's attention to the complexity of greetings in the Saudi Arabian context and also to bring to his/her notice the possible impact of the failure to take these details into consideration while designing a Social Story™ for use in Saudi Arabia.

Greetings in Saudi Arabia are prescribed and prolonged. Saudis are inclined to spend considerable time speaking during a casual social encounter, with enquiries about wellbeing and family. The most popular greeting between Muslims is the shaking of hands and the utterance of the phrase *As-Salaamu 'Alaykum'* (Peace be upon you). An appropriate reply is *Wa alaikum assalam* (and upon you be peace). Men often follow this up by holding out the left hand to the right shoulder of the other person and kissing the right and left cheeks. The greeting used is determined by the relationship between the individuals and their positions in society (Almasour, 2007; MCIA, 2007). Also, due to the strict rules concerning segregation, as seen in the previous section, there are separate guidelines with regard to men greeting other men, women greeting women, and most significantly with regard to exchange of greetings between the sexes.

For instance, while the typical greeting between two men or two women (that is, greetings between two persons of the same gender) consists of a friendly handshake using the right hand and an embrace, occasionally accompanied by one to three kisses on the cheeks (MCIA, 2007; Zuhur, 2011), greetings between men and women are restricted. Little or no touching is allowed during greetings in public, except if they are connected biologically or through marriage, but even then physical contact is likely to be negligible (Zuhur, 2011). Women wearing a veil are generally not introduced to men and will not shake hands. A verbal greeting alone typically suffices (MCIA, 2007). Kissing the shoulder of a superior/elder is traditionally required in some regions of Saudi Arabia and is also usual when greeting members of the Royal Family. Kissing an older family member (father,

grandfather, etc.) on the forehead is another method of conveying respect (Zuhur, 2011). Hence, it can be seen that the designer of a Social Story™ proposed for use in Saudi Arabia would be required to be aware of these guidelines so as to avoid the depiction of inappropriate greeting behaviour in the story.

2.4.4.2 Food restrictions and Dining etiquette

Present-day Saudi culture still practises many traditions of the past related to food and dining. Certain food and drink restrictions are observed due to religious guidelines, such as avoidance of pork and alcohol. However, Saudi people are generous hosts and enjoy arranging plentiful food for guests.

Some traditional greetings are used before and after meals. For instance, before starting to consume a meal, visitors may say *Sahtain* ('Double health'), or *Bismillah* (in the name of God). Similarly, at the end of the meal, guests must say *Daimah* (may there always be plenty at your table) or *Alhamdulilah* (thanks be to God). Furthermore, saying *An'am Allah alaikum kather Allah kherkum* after consuming a meal suggests that the guest enjoyed the food, who then asks Allah to be generous to the host (Al-Farsy, 1982). The left hand must never be used for eating, particularly if the food is consumed using the hands. Hands must be washed at the beginning and end of every meal. Only the right hand must be used when the food needs to be picked up and consumed; the left hand must always remain at the side. Additionally, the left hand must not be placed on the table or used to pass food around the table (Hunt & Margaret, 2003).

Due to the guidelines concerning mixing of the sexes, women are not supposed to touch food being served to men if they are dining together unless they are related (Hunt & Margaret, 2003). In terms of seating, the head or the middle of the table is the most privileged position. In male-only or mixed gatherings, the head of the table is reserved for the oldest or the most senior man (by position, for example, the King in the context of a royal meal). In a women-only context, the most senior woman present may take the seat at the middle of the table. The person seated next to the head is the second most revered guest. Guests must wait for the senior members of the party to enter a room first and for the oldest man or the host to be seated; then they will be guided to their own seat. Shoes will often have to be removed (Alotaibi, 2004). Thus, it can be seen that the designer of a Social Story™ proposed for use in Saudi Arabia would have to be careful with regard

to the depiction of food items, seating arrangements, use of the left hand, and so on, to avoid misrepresenting actual food restrictions and eating behaviour in the story.

2.4.4.3 Dress code

The designers of Social Stories™, as will be seen in more detail in Chapter 3, are often advised to use individually tailored illustrations to enhance the effectiveness of the stories. These illustrations may range from graphics to cartoons or photographs of real-life scenes to including pictures of the target individual for use in the story. Awareness of the Islamic recommendations for a humble or modest dress code are then essential for the designer of a Social Story™ proposed for use in Saudi Arabia. The dress code is imposed by law in Saudi Arabia and some of its neighbours such as, Iran (The Economist, 2015). As with other matters, Sharia law regulates the strict dress code in Saudi Arabia and consequently, it is inappropriate (if not illegal) for Saudi citizens to disregard the dress code (Alhazmi, 2010).

The customary dress code for men is the traditional white robe worn by Saudi men and boys,called the *thobe* or *thawb* (Alhazmi, 2010). The dress code for women is more stringent, as perhaps could be expected from the strict guidelines pertaining to segregation of the genders. Accordingly, Saudi women and girls who have reached puberty are required by law to wear, in public, a dense, non-transparent and flowing robe that covers the body. However, it must be noted that the stringency of the dress code in Saudi Arabia varies with region; Riyadh is stricter than Jeddah, for instance. Furthermore, there are different kinds of covering (Metz, 1993; Shimek, 2012) (Table 2.1).

Table 2.1: Dress code for women

Item of dress	Description
Abaya	Conceals the whole body and includes a veil to cover the head and hair. However, the face remains exposed and visible.
Burqa	Covers a woman completely from head to foot, including the hands, face, and even the eyes. This is the most concealing form of dress and is preferred by traditionalists.
Niqab	A niqab is similar to the burqa but with a slight incision for vision. This term is sometimes used interchangeably with 'burqa'. The niqab is the most common covering used by Saudi women.
Hijab	The traditional head covering.

Foreigners visiting or residing in Saudi Arabia are also not exempt from a dress code. In public, foreign men are exempt from wearing traditional attire but are expected to wear long trousers and a shirt. Foreign women,on the other hand, are required by law to wear an *abaya* in public to cover their everyday clothing (Alhazmi, 2010).

In the context of this study, an understanding of the implications of the Saudi dress code is required to help the reader understand the repercussions of the failure to conform to the dress code in the visual representations utilised in the Social Stories™. Baron-Cohen, Leslie and Frith (1985) observed that children with ASD often have a deficit in reasoning or "detail-processing." They may not be able to understand that some of the visual images used in the Social Stories™ are for representative purposes only, thus detrimentally affecting the outcome of an intervention using such stories.

2.4.5 The Saudi view of disability

In general, the Muslim point of view concerning disability is an extension of their faith and belief in God. Disability in the context of Saudi Arabia has ethical or spiritual significance, being viewed either positively or negatively. Disability could, for instance, be expressed as an example of the need to be 'fatalistic' in acquiescing to life's difficulties. Consequently, a disabled child might be viewed as a test of faith. On the other hand, cultural perceptions might intermingle with spiritual principles and can often result in various alternative courses of action, which may be incorrectly ascribed to spiritual beliefs, such as endeavouring to rationalise the reason for the disability or seeking resolution. Parents of children with disabilities may consider this to be a cause of ruin or trouble sent from God (Miles, 2002). Others may blame themselves for the disability, seeing it as punishment or a test from Allah (Hasnain, Shaikh, & Shanawani, 2008).

The attitude of Saudi society towards people with disabilities is founded on a concept of disability that views the disabled as vulnerable individuals who are helpless, confined to the home, have a low quality of existence, and are not productive members of society (Al-Gain & Al-Abdulwahab, 2002). Although Muslims in general have common opinions and ethics, parental approaches, comprehension of theories and responses to their children's disabilities might differ according to the degree of religious conviction, socio-economic status, educational qualifications, and knowledge of the child and his or her ability, as can be seen in different communities across the world. Environmental factors may also influence parents' behaviour and attitudes to their child's disability, such as their country

of residence or the facilities available in their neighbourhood (Al-aoufi, 2011). The following section examines the history of educational provision for children with disabilities in Saudi Arabia.

2.5 Education of Children with Disabilities in Saudi Arabia

The Saudi Ministry of Education introduced the first special education programmes in 1960 with the objective of setting up training institutions for blind male children. The first institution set up was the Al-Noor Institute in Riyadh. Subsequently, a school for blind girls was created in 1964, followed by the formation of the Amal Institute in Riyadh for the hearing impaired.

In 1962, the Ministry of Education (MoE) established the Department of Special Learning in an endeavour to enhance learning and rehabilitation services for persons with disability in the country and expanded services to include the deaf and the intellectually impaired in addition to the existing services for the blind (Alquraini, 2012). The Al-Tarbiyah Al Fikriyah Institute in Riyadh was later (in 1976) set up for children with special education needs of both genders (Saudi Arabian Cultural Mission, 2006). Thus, it can be seen that these institutions facilitated the creation of additional schools and services to assist individuals with special needs, whether physical or intellectual.

Saudi Arabia, together with several other countries and organisations, ratified the Salamanca Statement (UNESCO, 1994) which concerns the notion of inclusive education for all children including those with special needs, that is, children with disabilities. Subsequently, the MoE has adapted and/or ordained several policies related to the education of children with special needs (Brown, 2014). Accordingly, the Saudi Disability Code of 2000 expanded the definition of disability to encompass non-only persons with disabilities in sight, hearing, cognition, motor ability, and learning, but also impairments in speech and language, issues with behaviour, multi-disabilities, pervasive developmental delay, and other impairments which necessitated special care. This Code thus confirmed that persons with these disabilities were to have access to suitable education at no cost, and that selected public agencies were to provide emotional, communcal, therapeutic and recovery services to such persons. Moreover, these agencies were required to provide assistance to entitled persons in areas including welfare,

employment, complementary services, health, habilitation, training and rehabilitation, and so on (King Salman Centre for Disability Research, 2007-2017).

The Saudi government also commissioned the Regulations of Special Education Programs and Institutes (RSEPI) in 2001 based upon U.S. policies (Alquraini, 2011). From the above information, it can be understood that all children with disabilities were entitled under the RSEPI to suitable education at no cost in the least restricted environment (LRE), individual education programmes (IEP), early intervention programmes (EIP), and transition services (Weber, 2012). Moreover, with particular regard to children with ASD, the IEPs sponsored by the MoE concentrated on modifying the actions and mannerisms which are a matter of concern to the parents of children with ASD (Mulick & Butter, 2002).

There are also legislations which specify the manner in which eligibility for special education services are to be assessed (Aldabas, 2015). For instance, the 2001 Rules and Regulations of Special Education Programs (RRSEP) define the policies concerning the rights of students with disabilities with regard to access to special education programs. The regulations take the diverse needs of students with diverse disabilities into consideration. The government determines whether students are eligible for individual or joint special education programs based on the nature of their disability (MoE, 2002; Alquraini, 2010). The purpose of the RRSEP was ostensibly to make certain that a student with disability receives the appropriate special education services that align with his/her specific requirements. However, it could be seen that, for several reasons, the implementation of RRSEP policies have not been effective. For instance, a dearth of experts to perform diagnostic evaluations, lack of effective tools for assessing the most appropriate educational settings for students with disabilities based on their unique needs and their location, and so on (Aldabas, 2015).

Nevertheless, it could be seen that while Saudi Arabia has policies that endorse the equal rights of individuals with disabilities to obtaining suitable education at no cost, these policies are more than a decade old and require review and possible revision. As a special education teacher working in Riyadh, I could see that there was a significant gap between what was recorded in the policies and what was actually practiced with students with disabilities. In other words, it could be inferred that these policies were not effectively

implemented in Saudi Arabia resulting in a lack of special education services for some students with disabilities (Alquraini, 2011).

Children with intellectual disabilities can currently either go to mainstream schools or to specialised institutes focused on specific conditions (Al-Mousa, 2010). In specialised institutes, children with disabilities, such as those with ASD, study in special settings with other children with special needs or disabilities. When children with disabilities or their parents choose to go 'mainstream' instead, a child with special educational needs (SEN) will follow his/her own course of study, but will physically work alongside children without special educational needs (Al-Mousa, Al-Sartawi, Al-Adbuljbbar, Al-Btal, & Al-Husain, 2006). 'Mainstreaming' implies "self-contained classroom programs, resource room programs, itinerant teacher programs, teacher-consultant programs, and follow-up programs" oriented towards children with special needs or disabilities in non-specialised schools (Al-Mousa, 2010, p. 17). A 'resource area' is an educational setting within mainstream schools outside the regular classroom, where special education services such as special classes or interventions are provided for children with special educational needs (Al-Mousa, 2010; Hocutt, 1996). This indicates that children with special educational needs, such as children with ASD, are placed into regular classrooms along with non-SEN children. They may also attend some classes separately outside the regular classrooms, however. These classes could be focused on social skills interventions or additional coaching in subjects, depending on the needs of the student.

2.5.1 Services for children with ASD

The Ministry of Education (MoE) in Saudi Arabia formulated the regulations regarding Special Education Programs and Institutes (RSEPI) in 2001 to articulate a special education policy for individuals with disabilities and to provide associated eligibility guidelines. The RSEPI was modelled on similar legislation in the United States and is intended to offer suitable education at no cost to children with disabilities, individualised education programmes (IEPs), programmes for timely intervention, transition services, and other associated services. The RSEPI also stipulates how services for children with disabilities should be provided by schools, along with guidance regarding the regulation of the quality of the special education services in the country. In general, all children (with or without special educational needs) participate together only in non-curricular activities (for example, physical education and art) (Alquraini, 2011).

These regulations are now more than a decade old and have been allowed to remain on paper rather than being put into practice in the real world (Al-Mousa, 2010). Consequently, the issue of whether these workshops, specific methods of diagnosis, and coaching for specialists and associated health professionals have been appropriately put together remains unclear. Presently, the RSEPI plans to ensure that schools and learning centres do not use the 'Wait-to-Fail' method, which suggests that teachers only recognise that a child has a problem or disability when he or she performs badly in class (Fuchs & Fuchs, 2007). These approaches were developed using IEPs, as recommended by the RSEPI. In general, in the current world system of education, IEPs are customised education programs devised for all children and related to their individual learning support needs. In the context of Saudi Arabia, however, these are limited to individual children with special educational needs. IEPs are based upon the student's current learning trajectory, his/her next learning steps as evaluated by formative assessment needs and the curriculum devised by the curriculum specialists of the MoE (Alquraini, 2011).

Although SEN pupils do obtain some support from special tutoring facilities, such as resource rooms, their achievements are not yet at the same level as those of children without special educational needs. Many of these children with special needs and disabilities are incapable of pursuing higher education; there is a disparity in the kind of support they receive. At present, their options and pathways are reduced to attending vocational centres (Al-Ajmi, 2006). Testing approaches to determine whether children qualify for distinctive learning and facilities are frequently used when the child reaches school age. Many special education schools do not possess the multidisciplinary teams or tests to effectively make these appraisals (Al-Nahdi, 2007).

Many facilities exist to assist children with ASD with problems in social communication and other language problems, or deficiencies in their fine or gross motor skills. The onus is on the school to provide an inclusive curriculum and professionally develop their teachers to understand a range of pedagogical strategies to support all learning needs and behavioural issues. The MoE should be supporting the schools by adequately resourcing and offering professional development sessions and interventions to sustain the professional skills level of the teaching profession in Saudi Arabia. The RSEPI supplies assessment approaches to determine whether children qualify to receive special education services. Free education, individual education programs, early intervention programs and

other such services are provided to children who meet the requirements to assist them in coping with ASD or other intellectual disabilities.

Al-Quraini (2011), when studying the feasibility and usefulness of services for children with special educational needs such as ASD in public schools, ascertained that the easiest services to access were transportation, psychological services, speech and language therapy, school counselling, and school health services. Hanafi (2008), on the other hand, observed that health and medical services were easily accessible to children, while rehabilitation services were not. Al-Otaibi and Al-Sartawi (2009) established that special education centres and institutes in Saudi Arabia did not deliver acceptable services related to health, medical, and/or physical therapy. The IEPs offered by schools for children with disabilities are delivered and distributed by the MoE. Alquraini (2011) reported that these programmes were not adequately individualised and that private schools and institutes could not effectively enhance the communication and physical skills of children with disabilities due to the lack of occupational therapists, physiotherapists, and speech and language diagnosticians *(*Alquraini*,* 2011). More extensive research is needed to support the findings of Alquraini's study, however.

In many schools, children with ASD are separated from other children. Children with ASD may therefore find it difficult to gain the experience required to adapt their behaviours and social skills to the demands of mainstream society. The reason for separation is partly due to the pressure encountered by teachers in Saudi public schools, who are not able to deliver the required personalised and focused services to children with disabilities (Al-Faiz, 2007). Though the Saudi government in general (the Ministry of Social Affairs in particular) are contemplating inclusive education, there have been few effective actions thus far (Almasoud, 2011). International conferences are being organised and the government has set aside a sizeable budget for ASD; however, there is public concern that insufficient efforts are being made to assist children with ASD and their families. This is evident from the findings of Almasoud's (2011) study, in which 97% of families reported that the degree of public awareness regarding ASD was low and 99% reporting that teachers in mainstream public schools did not comprehend how best to assist their children. There is demand from the public for appropriate free education for children with ASD, as well as exclusive facilities to help develop their behaviour without institutionalising them or setting them apart from other children. Furthermore, there is

concern that financial aid is not being properly distributed to organisations and charities working with individuals with ASD, which is hence not being utilised to directly assist those in need. Schools, for example, need the money to aid their staff in developing an understanding of ASD or to equip teachers with the required understanding of pedagogical and social strategies to support children with ASD.

The UK and the US have made considerable progress with interventions for children with ASD. Saudi Arabia, however, is still in the early stages in this regard. Teachers do not currently possess adequate information and pedagogical strategies. Intervention tools such as Social Stories™ have typically been developed in the West or with a Western setting in mind, which is quite distinct from the cultural environment in Saudi Arabia. Some progress in individual interventions has been seen in private schools in Saudi Arabia, chiefly due to parents having high interest and involvement in ensuring that their children develop to the best of their abilities. The overall absence of the level of training for professional committed teachers with a range of individualised strategies and understanding of how different children learn is, however, hampering the development of an inclusive learning programme for children with ASD.

2.5.2 Challenges in providing inclusive education for students with disabilities in Saudi Arabia

In their study of special education services in Arab countries, Hadidi & Al Khateeb (2015) recognised several significant challenges with regard to providing such services to students with disabilities. A few are discussed in this section.

2.5.2.1. Lack of Access to Services and Teacher Training

In most Arab countries, including Saudi Arabia, only a very small percentage of students with disabilities obtain access to special education services. The reasons for this include special education and rehabilitation facilities that are clearly unsuitable, restricted financial resources, shortage of simple educational curricula and supporting materials, inadequacy of IEPs, social stigma, and inaccessibility of schools, to name a few (Al Lawati, 2011; Kronfol, 2012; Wehbi, 2007). Moreover, support personnel such as school psychologists, speech and language pathologists, sign language interpreters, physical and occupational therapists are in short supply (Al Thani, 2007; Al Khateeb & Hadidi, 2010), accompanied by an absence of many special education service delivery models (e.g. self-

contained classes, consultant and itinerant teachers, and hospital-based instruction) (Hadidi & Al Khateeb, 2015).

Training of special education teachers is a matter of concern as there are shortcomings both in pre-service and in-service (Al-Hilawani et al., 2008; Amr, 2011; Bradshaw, Tennant, & Lydiatt, 2004). Hadidi & Al Khateeb (2015) recognised, that apart from a few exceptions, special education training for teachers is not established on a group of professional standards for practice (for example, on-going professional development, collaborative methods, and assessment of teacher education programmes).

2.5.2.2 Attitudes and Perceptions toward Disability and Special Education

Although significant progress has been made with regard to the attitudes towards persons with disabilities, social stigma and degrading views persist in Arab countries where such persons are perceived to be an oppressive burden on families and the wider society (Crabtree, 2007; Nagata, 2007). Moreover, there is evidence that society has low expectations of persons with disabilities as could be seen in the inferior quality and inadequate evaluation of programmes and services provided to them. In general, studies performed in the Arab countries showed that different groups, including teachers, senior-level administrators, the general public, and healthcare professionals, lacked awareness both of disability issues and of the rights of persons with disabilities (Abdalla & St. Louis, 2012; Al-Hilawani, Koch, & Braaten, 2008; Al-Kindi, Al-Juhaishi, & Al-Saffar, 2012; Anati & Ain, 2012; Gobrial, 2012; Nagata, 2014; Zeglam & Maouna, 2012).

2.5.2.3 Early Intervention and Parental Involvement

Another aspect that serves as a challenge in providing inclusive services to students with disabilities is the lack of early intervention programmes (Al-Hilawani et al., 2008; Bradshaw et al., 2004). In particular, delayed recognition and hence referral of at-risk children is a significant challenge. However, two widely known early intervention models are used in Saudi Arabia. The first, is the home-based Portage Project (UNESCO, 2007). The second is the Early Start Denver Model which offers evidence-based early intervention services for children with ASD (Elder, 2012). Nevertheless, there are no clear policies or regulations regarding special education provision for pre-school children with disabilities and children under 3 years of age continue to have poor access to services.

The special education laws and training programmes currently available offer little support for families and parents of children with disabilities. There is active participation from some parents in their children's educational programmes (Al-Shammari & Yawkey, 2008). However, in general, parent involvement in special education is minimal and depends on the decisions and stipulations of parents and teachers (Al-Shammari, 2000). Moreover, the efforts to increase the awareness of parents of their children's rights or to inspire teachers to assist their participation in the educational process remains poor to minimal (Sartawi & Smadi, 1997; Yousef & Hadidi, 1992).

2.5.2.4 School Environment

The school environment also poses a significant challenge to inclusive education in Saudi Arabia. For instance, adequate and appropriate resources must be provided by schools if they are to ensure the effective implementation of inclusive education for students with ASD. Material resources to be provided by schools include IC & T (Information and Communications Technology) resources, social skills interventions, individualised educational plans, and professional human support (Avramidis & Norwich, 2002). Other facets of the school environment that can influence the provision of effective inclusive services include the organisation of the schools, number of students in classrooms, educational assignments and guidelines, and inadequate funding, provision of sufficient and suitable materials and resources, modified teaching materials, and rearrangement of the physical environment to appeal to students with ASD (Al-Zyoudi, 2006; Koutrouba, Vamvakari, & Steliou, 2006; Singal, 2005). Therefore, it can be concluded that inclusion may be more successful if the school environment is suitably modified to suit the needs of students with special needs, such as ASD.

Additionally, the involvement of Local Educational Authorities and the administration and management of inclusive schools are required to equip the schools for the inclusion of students with ASD (Batu, 2010; MacLeod, 2001). Funding for schools and local and school policies may also affect the provision of inclusive education for students with special needs. Avramidis, Bayliss, & Burden (2000) found that schools with greater funding provision were more receptive to inclusive education of students with special needs, as such schools were able to equip teachers and staff, and also offer counselling and other resources as required. Hence, if there is inadequate support from the government and school administration, inclusive education is unlikely to be successful. Moreover,

unhelpful or unsuitable school environments may unfavourably influence parents leading them to lack confidence in the capacity of schools to understand the specific needs of their children and hence be unsupportive of inclusive education in general (Elkins, Van Kraayenoord, & Jobling, 2003; Sadek & Sadek, 2000).

Another significant facet of the school environment are the teachers who may lack the infrastructure, training and support to provide inclusive services to students with special needs (Kristensen, Omagor-Loican, & Onen, 2003). Moreover, their attitudes towards students with special needs may hinder their acceptance and hence implementation of inclusive services in thes schools (Miles, 2000)

2.4.2.5 Collaboration and Communication

Another factor that affects inclusive education is the lack of collaboration and communication across different levels of stakeholders. For instance, between schools and parents, between different members of the school staff such as, teachers and principals. Villa & Thousand (2005) suggested that schools must seek the active cooperation of parents and create clear and open channels of communication indicating that their contribution is welcome and valued. Moreover, Singal (2005) concluded when schools do not have sufficient community awareness or involvement of parents, the consequent absence of mutual cooperation could be a significant hindrance to the effectiveness of inclusive education (Al-Zyoudi, 2006).

Overall, it could be seen that the most common challenges with regard to providing inclusive services in Saudi Arabia were the lack of access to services, the attitudes and perceptions towards disability and special education, lack of or inadequate teacher training, lack of early intervention programmes and parental involvement, the lack of readiness of the school environment for students with special needs, and the absence of collaboration and cooperation among significant stakeholders in special education. Although inclusive education in Saudi Arabia is supported by the policies of the Ministry of Education and the country's provision for free education for students with disabilities, it is evident that there are some shortcomings in the provision. First, the policies are out-dated and require review and revision as they are more than fifteen years old as at the time of the writing of this thesis. Moreover, processes and systems to ensure effective implementation in schools and other educational institutions lack rigour. Furthermore,

there is evidence of lack of awareness regarding special educational needs and inclusive educational practices.

As Hadidi & Al Khateeb (2015) suggest, with regard to special education programmes, that there is a clear need for cost–benefit analysis, implementation of well-defined methods for funding, and enhanced allocations corresponding to the actual needs of students with disabilities. Moreover, there is an absence of successful governance and quality control (Bradshaw et al., 2004). Additionally, impartial assessment of the effect and usefulness of special education programmes and services is seldom performed. Consequently, policymakers and programme designers do not have adequate information with regard to the suitability and usefulness of the services provided. Additionally, there is a lack of public awareness with regard to disabilities, in general. Thus, it could be seen that false impressions and non-scientific descriptions of disability and cultural interpretations of disability persisted against more neutral or realistic outlooks (Hadidi & Al Khateeb, 2015).

Another issue was related to teacher training which emphasised general aspects of special education and placed low emphasis on practical experience (Al Jabery & Al Khamra, 2013) and ongoing training. An aspect which could be seen to require greater attention from the specific perspective of for young children with disabilities was the strengthening of early identification and intervention services as some of the programmes such as Portage have been in existence for more than 25 years. Moreover, parents typically are inclined to wait in the hope that their children will somehow outgrow their difficulties, due to social and cultural factors (Al Khateeb & Hadidi, 2010). A fact that helps explain why Arab parents prefer medically oriented interventions to developmentally oriented intervention (Hadidi & Al Khateeb, 2015). Thus, significant efforts should be made to encourage and support the involvement of parents in inclusive educational programmes.

2.6 Concluding remarks

The aim of this chapter was to present the context of the current study by examining the Saudi Arabian culture in depth to demonstrate how the influence of Saudi culture and the Islamic elements within it dominate and control teachers' experiences, pedagogical understanding and perceptions. The school of Islam followed in Saudi Arabia, the Wahhabi school, is one of the most conservative Sunni schools, in which tradition and values are given great emphasis. The day-to-day influence of religion on Saudi society has been examined by highlighting the cultural and social values of Saudi society from the Islamic perspective in terms of the importance of family, gender segregation, customs, and the Saudi view of disability. Furthermore, a brief overview of the influence of religion on different Saudi traditions such as greetings, dining etiquette, dress code, and gender relationships has been provided.

The chapter has concluded with a description of the education of children with ASD within the Saudi context, including an evaluation of the services available for children with ASD in Saudi Arabia and some of the challenges in providing inclusive education for students with disabilities in Saudi Arabia. It is observed that the Muslim (hence also the Saudi) perspective towards disability is an extension of the Muslim faith and belief in God. Special needs services in Saudi Arabia were established as early as 1960. The government continues to be the chief driver of policy and services for children with disabilities. Initiatives such as IEPs have been undertaken to encourage the inclusion of children with ASD in mainstream schools, however, the mechanism for the timely diagnosis of ASD requires review, as does the approach towards children within the autism spectrum in schools. The pedagogical understanding of the mainstream teaching profession and the public awareness of the various services available for individuals with ASD also requires improvement.

The next chapter will provide a synopsis of the perspectives of professionals and researchers on social skills interventions. Additionally, it will review several research studies related to the efficacy of Social Stories™ in the development of social skills for children with ASD. These perspectives and research studies were important for me as the researcher in gathering the required knowledge to inform my study.

Chapter 3: Literature Review

Introduction

The use of Social Stories™ to support children with ASD is a relatively new pedagogical strategy in Saudi Arabia. Zeina et al. (2014), for instance, list the various methods of intervention used in the country, but these did not include Social Stories™. In my view, this suggested a lack of awareness or a lack of reporting about their use in the country. It is therefore apparent that the current literature associated with the perceptions of teachers about the use and effectiveness of Social Stories™ for children with ASD within the Saudi Arabian context is limited. This research thus aims to contribute to filling this gap.

The purpose of this chapter is to analyse critically the current literature associated with this research topic. The first section discusses ASD (its definition, history, characteristics, and diagnosis), models or theories associated with ASD, the diagnosis of ASD in the Kingdom of Saudi Arabia, the acquisition of social skills by children with ASD, and social skills interventions. Social Stories™ are also examined in detail as a social skills intervention for children with ASD. The final section outlines the theoretical framework underpinning the research, namely sociocultural theory.

The following section will explore ASD, its definition, history, characteristics, diagnosis, and social skills acquisition.

3.1 Autism Spectrum Disorder (ASD)

The term 'autism' (from the Greek word *autos* meaning self) was first used by Bleuler (1911) to describe the characteristics of individuals with schizophrenia who were considered to be separated from reality and to "live in a world of their own" (p. 52-56; 304-305). Kanner (1943) formally defined autism when he studied 11 children who had difficulties relating to others and their reactions to certain social stimuli. He suggested the term "early infantile autism" to encompass these behaviours, such as repetitive behaviour and reduced social interaction (Pearce, 2005).

Concurrently, Asperger studied four children who also experienced difficulty connecting with others socially (Townsend & Westerfield, 2010) and began to use Bleuler's term to describe their condition. Wing (1981) named this particular lack of ability to socially

connect 'Asperger Syndrome'. According to Asperger and Kanner, however, it was evident that a single term would not suffice to describe an ailment that revealed itself in such diverse and exceptional forms. Autism Spectrum Disorder (ASD) is collective the comprehensive term for all disorders associated with autism (Bregman, 2005), including terms such as Kanner's autism, Asperger's disorder, early infantile autism, childhood autism, high-functioning autism, atypical autism, pervasive developmental disorder not otherwise specified (PDD-NOS), and childhood disintegrative disorder. All those terms that were used previously to describe this impairment have now been replaced with the term Autism Spectrum Disorder (*DSM-5®*, APA, 2013, p. 53). The wide-ranging variations which are likely to fall under this term need to be encompassed by any definition of autism. According to the Diagnostic and Statistical Manual of Mental Disorders (DSM) (*DSM-5®*, APA, 2013), autism spectrum disorders represent a cluster of neurodevelopmental disorders in which individuals show "characteristic deficits of social communication" which are "accompanied by excessively repetitive behaviors, restricted interests, and insistence on sameness" (p. 31).

In summary, ASD is a disorder that is defined by behaviour, typified by challenges in the quality of social communication, reciprocal action at the social level, and social vision, along with a limited series of pursuits, and often fixed recurring behaviours and gestures. Other common characteristics are sensory hypo or hyper-sensitivities to the surroundings (Baird, Cass, & Slonims, 2003). ASD was earlier explained in terms of a 'triad of impairments': impaired communication, social skills, and repetitive, restrictive behaviours and interests (DSM-IV; APA, 1994; Wing, 1981; Wing et al., 2011). Subsequently, the fifth edition of the DSM modified the explanation to encompass two specific groups of impairments, namely "persistent deficits in social communication and social interaction across multiple contexts" (a combination of the first two elements of the triad) and "restricted, repetitive patterns of behaviour, interests, or activities" (*DSM-5®*, APA, 2013, p. 50). The following section will examine these conditions in order to explore ASD and its implications.

3.2 Impairments that Characterise ASD

(Wing, 1981; Wing et al., 2011) originated the term 'triad of impairments' to illustrate the aspects of ASD. These conditions, as indicated in the previous section, encompass difficulties in social communication, limitations in social skills, and regular displays of

limited behaviour and pursuits. The current edition of the DSM (*DSM-5®*, APA, 2013) combines the first two components of the triad into a single element, thus replacing the triad of conditions with a pair (or dyad) of behavioural conditions.

A. *Impaired communication and social skills*

Children with ASD exhibit difficulties with both verbal and non-verbal forms of social communication. They may have problems related to vocabulary, for example (Nacewicz et al., 2006) or exhibit hyperlexia, a highly developed set of word decoding skills (Newman et al., 2007). Furthermore, individuals with ASD may speak in a very monotonous manner (Depape, Chen, Hall, & Trainor, 2012).

Another problem faced by children with ASD is their inability to decode words that have both abstract and literal meanings, for example homograms such as 'he does not type' and 'he is not my type' (Cashin & Barker, 2009). The use of facial expressions for non-verbal communication may also be limited (Cashin, 2005). Impairments concerning social skills are intertwined with impairments in communication. Children with ASD not only speak in a monotonous manner, but also face difficulties comprehending different inflections in speech when communicating with other people (Depape et al., 2012). Similarly, the inability to decipher the abstract meanings of words prevents them from identifying subtle nuances in other people's speech. This is, however, perceived as a separate condition, as children with ASD display difficulties in grasping the ideas and emotions of others regardless of whether any linguistic barriers are present.

The degree of these difficulties can be represented by a host of issues, from being unaware of how other people are feeling at one end of the spectrum, to an inability to interpret these feelings on the other. Children with ASD may thus be able to recognise simple emotions (e.g., sad, happy, angry) but struggle with more complex emotions (e.g., embarrassment or surprise). Also, they are typically incapable of explaining the circumstances or perspectives that trigger these emotional conditions (Stichter et al., 2010). Furthermore, children with ASD encounter significant struggles with identifying and reacting to the facial expressions of others; in other words, they find it difficult to 'read' facial expressions (Baron-Cohen, Campbell, Karmiloff-Smith, Grant, & Walker, 1995). This research found that children with ASD struggled to match emotions with images or that they lacked the ability to understand the 'gaze' of other individuals, for example. In one experiment, young participants were presented with cartoon images depicting a pair of

simply drawn faces, each looking in a different direction. The children were asked to identify which face was looking at them or which face was 'happy', for example. The results established that children with ASD fail to read expressions, a necessary skill required in social communication (Baron-Cohen et al., 1995; Riby, Hancock, Jones & Hanley, 2013).

B. *Repetitive, restrictive behaviours and interests*

According to Cashin and Barker (2009, p. 190), a common characteristic of children with ASD is that they "do not deal well with unexpected change and have a marked preference to do things in an ordered, and at times ritualistic, manner". Changes to routines lead to feelings of anxiety, although it should be noted that the degree to which children with ASD react towards changes in their routine tends to vary. This is related to the preference, or even obsession, by these children to conduct things in a repetitive manner, which also assists in reducing their anxieties (Grandin & Scariano, 1986). Again, the way in which this preference for repetition manifests itself differs between children, ranging from repetitive movements such as continuous rocking to obsessions such as compulsive identification with a character from a children's TV show (Shattuck et al., 2007).

Many other manifestations of ASD have been left uncategorised. Frith (1994) discusses a number of these in her study, highlighting abnormally developed rote memory, unusual attention given to the constituent parts of objects, and cases when an autistic child possesses a skill, such as mathematical capabilities or musical gifts, at a much more advanced level for his/her age or stage of development. Other studies mention the unusual manner in which children with ASD process sensory information (e.g., Case-Smith, Weaver, & Fristad, 2015; Chuang, Tseng, Lu, & Shieh, 2012; Lane, Reynolds, & Dumenci, 2012). In essence, these varying opinions or outlooks with regard to the impairments that characterise ASD serve to draw attention to the fact that individuals with autism are not alike and consequently, interventions to aid them in social participation will also not be alike, that is, one size cannot fit all. Consequently, this needs to be taken into consideration by anyone designing and implementing interventions for individuals with autism. The following section examines the diagnosis of ASD in the Kingdom of Saudi Arabia.

3.3 Theories Related to ASD and their significance in the context of the present study

Various scholars have suggested different theories to explain the causes and symptoms associated with ASD. Since the objective of the present study is to examine the usage and value of Social Stories™ in supporting the learning behaviours and social competence of children with ASD, the theories deemed suitable for review were those which recognise the different facets of language and interaction in the context of persons with ASD. In general, psychological theories, such as the mind-blindness theory, central coherence theory and theory of executive function, offer a certain degree of clarification with regard to gaining awareness of autism and associated conduct. These theories have a significant part to play in recognising the mental, psychological and societal maturity of persons with autism and are described in the following sub-sections.

3.3 .1 Theory of mind (ToM)

The concept of the theory of mind (ToM) is required to gain an understanding of the mind-blindness theory. The Theory of Mind hypothesis is that "the core deficits found in Autism can be explained by the fact that persons with Autism are not able to recognize that other persons have minds" (Barnbaum, 2008, p. 21). This phenomenon is also called 'mind-blindness' (Baron-Cohen, 1995). ToM implies the understanding of the behaviour of other persons depending on their mental conditions which are unclear and their direct examination is unachievable. The concept of ToM was introduced by Premack & Woodruff (1978) who posited that a person has a ToM if he/she can attribute mental conditions to themselves and other persons. In other words, ToM explains the ability of a person to decipher (or read) the mental situation (e.g., the usage of notions, opinions, aspirations, feelings, etc.) of themselves and others (Baron-Cohen et al, 1985; Baron-Cohen, 1995). Subsequently, ToM has been fundamental to studies within different areas of cognitive science, such as comparative psychology, developmental psychology, child psychiatry and cognitive neuroscience. Moreover, ToM is crucial for the social interactions and communication of humans and further has a vital part to play in human collaboration and ethical thought (e.g., Waytz, Gray, Epley, & Wegner, 2010).

The activity of "mind-reading" signifies the process by which a person attempts to understand the behaviour of another person by scrutinising their gestures or mannerisms,

facial appearance and emotions. The outcomes of this scrutiny results in the devising of supplementary mental conditions which are in turn employed to anticipate what the person might do next. Through mind-reading, a person is not merely enabled to comprehend what other individuals do or say, but also to rationalise their activities and responses. Deficits in the progress of this mental capacity have a grave influence on social knowledge, as evidenced in children with ASD (Leslie, Friedman, & German, 2004).

In brief, the mind-blindness theory rationalises the absence of a capacity to evolve a ToM. Researchers (e.g., Baron-Cohen, 1995; Happé, 1999) suggested that the development of ToM is delayed in children with ASD. This delayed development can be considered to be the basis of several of the developmental irregularities that epitomise children with autism. Consequently, they lack the ability to empathise and be connected to the views, attitudes, and emotions of another person (Baron-Cohen, 1995; Frith, 2003). There are two significant components in empathising: first, the capacity to decode the mental conditions of other persons, and second, displaying suitable emotional responses, having first taken the mental condition of the other individual into consideration (Baron-Cohen, 1995; Leslie, 1994).

Two groups of children, one group composed of children with autism and the other of typically developing children, were tested on their capacity to select sketched and photographed facial illustrations of feelings to correspond to a person captured on videotape demonstrating actions, speaking and situations signifying four emotional conditions (Hobson, 1986). It was found that the performance of children with autism in this regard was significantly inferior when pairing mental states, thus indicating that they experience difficulties in identifying the manner in which the various manifestations of an emotion are associated with each other. In other words, evidence was found of the inability of children with autism in recognising emotional states. In a study of children with high-functioning autism, Baron-Cohen (1987) found that they demonstrate lower levels of participation in pretend play, or that their notion of 'pretend' is restricted to more regulated formats. Baron-Cohen (1987) investigated unprompted pretend (symbolic) play in ten children with autism aged between 4 and 12 years, ten children with Down syndrome aged between 2 and 12 years, and ten typically developing children aged between 3 and 5 years. The behaviour of the children was categorised into one of four types of play namely, sensorimotor, functional, pretend and ordering, through the

unprompted activities. The outcomes revealed that in comparison with children with Down syndrome and those who were developing typically, the ability of children with autism to participate in pretend play was greatly compromised.

Pratt & Bryant (1990) devised a test to evaluate whether viewing produces knowledge (that is, 'looking leads to knowing'). Two scenarios were provided to children, one in which a person peered into a box and the other where a person touched a box. The children were able to comprehend that it was not sufficient to simply touch a box to be aware of what it contains. The same test was repeated by Baron-Cohen & Goodhart (1994) on two groups of 12 children, one group with high-functioning autism while the other had other mental impairments, that is, without autism. Their study confirmed that the ability of children with autism to be successful in the 'seeing-leads-to-knowing' test was impaired. Another study discovered that children with high functioning autism (aged nine years) found it difficult to recognise and decipher the expressions of other persons, based on prompts from the eyes, and to submit a well-informed estimate about what they are pondering or experiencing (Baron-Cohen, Wheelwright, Spong, Scahill, & Lawson, 2001); a similar test performed with adults with high-functioning autism revealed that adults with autism also experience difficulty with advanced mind-reading (Baron-Cohen, Wheelwright, & Jolliffe, 1997).

As described in the preceding sections, ToM (Baron-Cohen et al., 1985) suggests that persons have minds and the capacity to recognise the state of mind of oneself and of other persons develops naturally. However, many scholars have expressed disapproval of ToM as a means to explain the behaviour of children. Their rationale is that the awareness of the state of mind of other persons is not merely an inherent talent but also the consequence of years of experience. For instance, Hacking (2009) considered that maturing verbal and societal communication is the consequence of rule-based practices. Also, he added that the capacity of children in verbal and societal aptitude should not be the matter of speculation, but instead understood to indicate that the behaviour of children differed from the behaviour of other children. Further, Hacking (2009) contended that some skills (e.g., roller-skating) could not be cultivated by studying books related to the skill, but by actually acquiring experience (i.e., attempting to skate). Moreover, it is suggested by ToM that intentions can be inferred through the examination of conduct. In this regard, McGeer (2009) contends that ToM cannot explain why persons without ASD cannot understand

the minds of persons with ASD. Persons with ASD might be able to successfully complete ToM tasks, but fail in to accomplish tasks dealing with essential facets of social knowledge. Additionally, children with ASD have various deficits in societal and interaction capacities, a matter overlooked by ToM while age, level of intelligence and verbal communication are considered (Tager-Flusberg, 2007). Also, the development of language skills necessitates practice not mere viewing of lip movements. The perspectives of Hacking (2009) and McGeer (2009) facilitate the concept of neurodiversity which posits that the experience of the social world of children with autism differs from the manner in which children without autism experience it and that the response of children with autism will differ from those of children without autism in comparable situations.

While it is apparent that ToM does not completely clarify societal communication with other persons or social skills acquired by practice, it also does not deal with the fact that children with autism are deficient in social and emotional communication skills. Both concepts are definitely associated with each other and could offset each other. That is, ToM clarifies the significance of being aware of the state of mind of ourselves and others from the perspective of enhancing our dealings with them (Frith, 2003) and in contrast, persons learn to make contact with others and acquire deeper understanding through rehearsal and experience. If it can be presumed that children with ASD encounter the same experiences as children who are typically developing only their learning is slower or that they fail to recognise the opportunity to learn, it is imperative to identify means to enhance these skills and improve the quality of their social communication. The notion of learning through rehearsal or repetition could be exhaustively utilised with children with autism as they lack the capacity to learn at a typical speed.

It could be seen that while Hacking, McGreer and others did not agree with cognitive approach specified by ToM, it is my opinion that the diagnosis and treatment of persons with autism can be significantly enhanced by the recognition of their deficits in ToM. Understanding the fundamental impairment of persons with autism in deciphering the conduct of others and possibly attempting to discover its cause will aid teachers in creating customised programmes for children on the autism spectrum. Tests of ToM have determined that the capacity of children with ASD to comprehend the emotions of other persons depends on their specific placement on the autism spectrum. For instance, children on the lower end of the spectrum have greater difficulties in distinguishing and decoding the emotions of other people in comparison to those on the higher end of the

spectrum (Loveland et al., 1997). Moreover, children may possess a greater capacity to decipher simple emotions (e.g., happiness, sadness, etc.) rather than more intricate emotions (e.g., pride, unease, etc.) (Bauminger & Kasari, 2000). Consequently, knowing the degree of the capacity of a child to decipher another person's mind, including feelings and objectives, is vital for the design of any intervention. However, despite the effectiveness of ToM in clarifying the lag in the development of social and emotional communication in children with autism, and their impeded imagination, the theory does not adequately explain the other delays that are a feature of persons with autism, such as spoken language, recurring, restrictive behaviour and adherence to routines.

Nevertheless, in the context of the present study, recognising the deficits in the development of ToM of a child with autism can facilitate the creation of Social Stories™ that are appropriate for use in the specific behavioural context that the child needs assistance with. Moreover, since the emphasis of Social Stories™ is aiding a child with autism in dealing with specific social situations and not to build his/her verbal ability, it can be inferred awareness of the concept of ToM and consequently mind-blindness which explain the first symptom criteria (A: impaired communication and social skills) of the DSM-5 diagnostic features of ASD, can aid teachers or other persons who are involved in the development and use of Social Stories™.

3.3.2 Central Coherence Theory (CC)

It has been recognised that the human brain favours comprehensive (global) mental processing over narrow (local) mental processing. The theory of central coherence (CC) posits that it is otherwise with persons with autism. That is, persons with autism favour local processing over global processing (Happé & Frith, 2006). Most persons with autism display better performance in activities necessitating local processing and with a greater emphasis on detail. Consequently, they fail to notice or assign lower importance for the broader context. Uta Frith drew attention to the weak central coherence (WCC) in persons with autism, in the late 1980s (Frith, 1989) which manifests as an attention to minute details while ignoring the big picture. The theory clarifies why persons with autism give greater attention to detail with regard to communication and their hobbies but struggle with social dealings. The WCC theory posits that social deficits in persons with autism can be attributed to their inclination to ignore the social context during social dealings. Nevertheless, it must be noted that some of the tasks (e.g., articulation of homographs,

embedded figures test, block design subtest of the Wescher IQ assessment) that necessitate local cognitive processing are spoken (Baron-Cohen, 2004). In these scenarios, persons with autism were found to be able to process information appropriately, challenging the idea that their function in verbal tasks is of inferior quality. They may also function well in activities requiring local processing that are non-visual in nature, such as tone and perception of melody. This can be attributed to a malfunction in the ability of the central nervous system to meaningfully assimilate various sources of information. Consequently, persons with this deficit lack the capacity to move all elements in the background to interim memory. For instance, while they may be adept at matching shades of the same colour in a picture with many colours, they may not be able to locate rhyming words in a paragraph (Jolliffe & Baron-Cohen, 2001).

Recent studies have attributed the deficit in central (global) processing to dominance in local processing that is, processing which is more detail-oriented. The generalisation necessitated for global processing is absent or deficient in persons with ASD and as a result, such persons give greater consideration to trivial details (Happé & Frith, 2006). Accordingly, robust evidence for the favouring of local processing in persons with ASD was found in a review of 50 studies pertaining to the WCC theory (Happé & Frith, 2006). Persons with ASD relate information such as assembling components of their everyday program, collecting associated details within a restricted area, or positioning visual components in logical association with one another while drawing. Tasks such as sequencing images to create an intelligible narrative necessitate global processing of pictures, as a person has to take contiguous pictures into consideration for the flow of the narrative. It must be noted however, that this task can be accomplished without connecting the pictures. For instance, an individual can create a story explaining a specific picture, or pictures, without connecting the events. Moreover, he/she may be able to create a timeline of the happenings in the pictures to generate a logical narrative. This necessitates local processing of the happenings, which signifies in turn that persons with autism have the capacity to connect information within a local area to produce logical accounts. Understanding an everyday sequence needs local processing; individuals may be able to connect tasks in the school routine but be incapable of associating sentences with each other in a grammar test.

Thus, it can be seen that the WCC theory provides clarity with regard to the successfulness of persons with ASD in tasks which necessitate attention to detail. Accordingly, such persons operate better in careers which necessitate scrutiny and awareness of precise details such as in mathematics or engineering. The tasks in such careers are predominantly visual rather than language-based. Hence, it can be seen that this predilection of persons with ASD justifies their lack of capacity to deal with substantial and diverse components of information. In other words, they are more precise than general. The WCC can also be used to comprehensively explain the poor language development in children with autism. Further, a framework is offered to evaluate the dissimilarities in language coherence.

Although there is strong evidence to support the explanation provided by the WCC theory regarding restricted mental processing in persons with ASD, the outcomes fail to lend themselves to generalisation as the replication of findings has failed in some studies. Indeed, the WCC theory is contradicted by the findings of some studies (e.g., Mottron, Burack, Iarocci, Belleville, & Enns, 2003; Ozonoff, Strayer, McMahon, & Filloux, 1994). Children with ASD can connect images using paper and pencil but not three-dimensional embedded images. Moreover, they place greater emphasis on specific details rather than the complete picture or melodic phrase. This signifies that while they possess central coherence, it is confined to specific details. Moreover, they possess the capacity for core thinking, but this is slanted towards local sorting out of information. Persons with autism assimilate distinct features of objects such as shade and consistency, and resolve the implications of straightforward terms. However, they may experience some limitations in linking diverse words. It must also be noted that weak coherence is not a universal feature of persons with ASD as it is encountered only in some groups of persons with ASD, a facet criticised by some researchers (e.g., Hoy, Hatton & Hare, 2004). Van Lang (2003) observed that children with ASD could recognise elements of an unbroken impact more rapidly than children who were typically developing. That is, while their minds were able to decipher information about the elements they may lack the capacity to create a logical story from a sequence of connected images. In other words, they possess central coherence, albeit subjective. Happé (1999) offered a different perspective on the central coherence theory when she posited that central coherence is a "cognitive style," which ranges in level from weak to strong. Similarly, persons with ASD may also differ however, on average they tend towards the weaker levels of central coherence.

As a special education teacher with experience in working with students with autism, I am inclined to concur with Happé's explanation of central coherence, and perceive it to be a style of thinking rather than a deficit in function. The attention to detail facet of persons with ASD indicates that they can achieve greater performance in activities that necessitate local processing, a matter that can be of great advantage to them. Moreover, it can be contended that persons are obstructed by their WCC from viewing the big picture. I agree with this assertion and also believe that this weakness impedes their understanding of social circumstances. Interventions for children with ASD have demonstrated that when these children are guided, their effectiveness in activities necessitating global processing can be enhanced. Nevertheless, approaches for teaching must take the cognitive capacity of children with ASD into account. For instance, teaching programmes can incorporate tasks that are not connected. Thus, children can learn to understand from simple tasks in contrast to complex tasks. Using simple terms and phrases in pronunciation tasks can facilitate the learning and comprehension of languages. Simple games with disconnected activities can improve social engagement. In a similar fashion, teachers can utilise straightforward models to help such children improve in their capacity to associate the different pieces of information in their surroundings.

The use of tasks that necessitate attention to detail can facilitate the development of the central coherence in children with ASD and thus enhance their social engagement. Drawing attention to expressions, emotions, and other finer details, can aid them in identifying feelings and the social situation. For instance, children were shown a depiction of a feeling and asked to match it to a social context. It is advisable to start with straightforward and current social situations that could result in a feeling before progressing gradually to more complex issues. It could be seen, in the context of the current study, that interventions, such as Social Stories™, take the weak central coherence of children with ASD into consideration as they endeavour to provide the missing information in a situation which would otherwise be overlooked by the individual with ASD.

3.3.3 The Social Learning Theory

The social learning theory, later termed the social cognitive theory, posits that three factors influence the alteration of behaviour, namely environmental stimuli, individual aspects, and features of one's conduct (Bandura, 1995). Bandura clarified the notion of control

beliefs and the fact that alteration of individual behaviour calls for individuals to have faith in their capability to undertake new activities (i.e., self-efficacy). Moreover, they must consider that there is reason to do so (Bandura, 2001). The principles of operant conditioning are the basis of the social learning theory. That is, the existence or deficiency of conduct is subject to the effects of that conduct. As a result, a person must anticipate that the favourable outcomes of certain behaviour will outweigh the unfavourable outcomes, for social learning to take place (Bandura, 2001). Moreover, while the theory of traditional learning contributes some essential notions to the social learning theory, Bandura contends that straightforward support (e.g., rats in a maze) cannot explain all forms of learning as a person does not have to personally encounter the effects of his/her behaviour in order to learn. Nevertheless, one of the distinct contributions of this theory is that people can learn by watching, mimicking and copying other persons (Bandura, 2001).

The capacity to imitate other persons is impaired in children with ASD. For instance, they encounter challenges with regard to imitating or mimicking specific behaviours viewed in their home or in school (Griffin, 2002). Imitation is viewed as the primary stage of a baby establishing a link between its universe and that of others. Any difficulty in identifying and co-ordinating their movements with those of others weakens their social progress. As part of their process of learning, children view the conduct of others and begin to develop comparable actions and vocabularies, a process of imitation that can be inapt (blind) or appropriate (proper) (Bandura, 1997). For instance, children of a very young age can pretend to use their heads to light a bulb. However, whether or not the bulb glows is not a concern of theirs, this is termed blind imitation. Children of a more advance age can replicate the same activity. However, in their case they will verify if the bulb glows, an example of proper imitation. Such imitation is feasible in children with autism. However, they may utterly fail in imitating gestures. For example, actions such as sticking out the tongue or using both hands to waggle the ears cannot be imitated by children with ASD (Meltzoff, 1995).

Blind imitation in children with ASD can be explained by the social learning theory. In general, children with ASD do not have the capacity to scrutinise a behaviour that does not interest them. They do not attempt to imitate behaviour if they cannot comprehend what inspires it. As a result, they are unable communicate with other persons in society, or to engage in social events. Goal emulation comprises relating a specific behaviour to

its consequence. For instance, when an individual performs an activity and receives a reward for doing so, children may relate the behaviour to the reward received. Consequently, they may be inclined to replicate such behaviour in the hope of being rewarded in a like manner. However, this is not the case in children with autism as they are not successful in developing goal emulation behaviours. They are unable to associate the behaviour with the rewards and consequently may not develop that behaviour (Griffin, 2002). With regard to external reinforcement, Bandura emphasised that forms of reinforcement, such as rewards and motivating words were not the only influences on learning and behaviour. Instead, he submitted that a component of "intrinsic reinforcement" exists which does not include an external outcome (e.g., satisfaction, feelings of pleasure, pride, etc.) that accompanies achievement. This consciousness is esteemed for its own merit and such an outcome is necessitated. The essential role of intrinsic rationale and understanding in Bandura's theory narrows the divide between conventional, behaviouristic knowledge and rational theories of development. This prominence on internal thought caused Bandura to classify his inquiry as a "social cognitive theory" (Bandura, 2001).

In summary, the social learning theory submits that children learn from imitating their parents, teachers, or peers. However, they may sometimes display behaviour that does not correspond to that of their exemplars. They may also be unsuccessful in developing particular facets of behaviour encountered in their teachers or parents. For instance, a child with gentle parents may develop violent tendencies whereas a child with violent parents may be gentle. The social learning theory does not explain such variances. Although their interest in societal participation is may be limited, children with high functioning autism (HFA) may acquire (or be deficient in) specific societal conduct. They may be engrossed in objects, but acquire particular conduct which cannot be explained by social learning (Bushwick, 2001).

In the context of the current study, it could be inferred that providing children with autism the relevant environmental stimuli, individual aspects, and features of one's conduct, could facilitate their learning of behaviour that would help them participate more effectively in social situations. For instance, providing a child with autism the details about the manner in which to participate in the assembly at school, such as the features of the auditorium, the sequence in which the activities will proceed, and so on, could

facilitate his/her effective participation in the social activity. As Social Stories™ endeavour to provide this kind of detail to support and improve the social participation of a person with autism, it could be seen that this theory must also be considered when designing interactions for such persons. The following section examines the diagnosis of ASD in the Kingdom of Saudi Arabia.

3.4 ASD Diagnosis in the Kingdom of Saudi Arabia

The timely diagnosis of ASD contributes significantly to the efficacy of intervention, thus enabling higher quality of services as well as therapies and interventions (Bradshaw, Steiner, Gengoux, & Koegel, 2015; Nazneen, Rozga, Smith, Oberleitner, Abowd, & Arriaga, 2015). Studies indicate that timely interventions can result in children with ASD becoming more strongly independent in adulthood (Eaves & Ho, 2008; Farley et al., 2009; Lord & McGee, 2001; Volkmar & Wolf, 2013).

Estimates and evidence of the prevalence of ASD in Saudi Arabia are varied. Past studies have indicated that rates are lower than in Western nations (Seif Eldin et al., 2008; Taha & Hussein 2014; Yazbak, 2004). However, this low reported rate could be attributed to under-diagnosis and under-reporting of the disorder in the country (Kelly et al., 2016). Recent research has recorded higher rates of prevalence and variances in diagnosis rates between genders in comparison to other developed nations (Al-Ayadhi et al., 2013; Al-Gadani, El-Ansary, Attas, & Al-Ayadhi, 2009; Al-Salehi, Al-Hifthy, & Ghaziuddin, 2009; Al-Zahrani, 2013; El-Tarras, Awad, Mitwaly, Alsulaimani, & Said, 2012). Conversely, some other newer studies have recorded ASD rates that are comparable with global rates (Murshid, 2011).

As discussed in Chapter 2, the Kingdom of Saudi Arabia is a conservative Muslim country in which day-to-day existence and hence perspectives on life in general, are influenced by Islamic standards and guidelines, which also includes views on disability. A number of studies have acknowledged that this corresponds with a delayed response to requests for professional assistance for disorders of any kind (Ennis-Cole, Durodoye, & Harris, 2013).

Culture can also affect diagnosis. Alqahtani (2012) studied the beliefs of parents of children with ASD in Saudi Arabia. He reported that ASD was attributed to several causes. The causes varied from medical reasons, such as vaccination, to non-medical or cultural reasons such as 'evil eye', 'black magic' and 'God's will'. Interventions were also driven

by what was considered culturally acceptable. Conversely, Jegatheesan, Miller, & Fowler (2010) found that some Muslim families thought that a child with ASD was a gift from Allah, pure and innocent, and given to the family due to their love, labour, self-worth, and capacity to bring up the child. Furthermore, it was believed that Allah would support the families to achieve great blessings by bearing a child with ASD; as a consequence, they might resist or delay diagnosis and intervention.

Further patterns in ASD diagnosis in Saudi Arabia include relatively delayed diagnosis and a greater incidence of grave interactive impairments in contrast to environments outside the country (Hussein, Taha, & Almanasef, 2011; Taha & Hussein, 2014; Murshid, 2011). Variances have also surfaced concerning the obtainability, inclination, and selection of treatment subsequent to diagnosis, with governmental interest being focused on the provision of healthcare instead of training and education. Furthermore, an inclination among families to choose remedies for ASD which are ethnic or biomedical over ones that are behavioural or educational has been noted (Al-Ayadhi et al., 2013; Alqahtani, 2012; Hussein et al., 2011). This is perhaps due to the collective and fatalistic aspects of the Saudi culture where tradition and family opinion influence the choice of remedy. Measures to spread widespread awareness of ASD and the various remedies and/or interventions associated with the disorder appear to be imperative in Saudi Arabia.

In Saudi Arabia, the right to access diagnostic services remains a concern. Almasoud (2011) undertook a study to examine 36 parents' satisfaction with the public services and support available for children and adults with ASD (and their families) in Saudi Arabia by investigating the satisfaction rating by parents of these services. The results of Almasoud's study established that the majority of the participating sample (88%) was satisfied with the rate of early diagnosis of ASD. Some parents, however, had reservations about the reliability of the diagnoses, as they were made by individuals who were not specialists in ASD or who were from private clinics. Furthermore, families reported that the process of diagnosis was confusing for them and that the process and the tests were not clear, even for professionals. Almasoud (2011) also found that it was not clear how to begin the process of accessing to diagnostic services in Saudi Arabia. It can hence be seen that parents in Saudi Arabia do not always know how and when to seek diagnosis and intervention for their children. This could lead to delayed diagnoses and therefore delayed interventions.

The importance of comprehending the distinctive needs of individuals with ASD in order to determine suitable methods of instruction, academic objectives, and adult assistance has been emphasised in studies (Jordan, 2008). As diagnosis is crucial for accessing services, teachers must have a secure knowledge of the classification of the various permutations of ASD, such as 'atypical autism' or Asperger's syndrome. It is imperative that autistic learners, in spite of their difficulties, are exposed to experiences and strategies, which will support them in gaining the social skills needed to integrate in society. The following section will discuss the importance of acquiring social skills, with particular emphasis on how these enable children with ASD to cope with everyday social interactions.

3.5 Social Skills Acquisition

Social skills, the ability to communicate and engage appropriately with fellow beings, are an essential aspect of human interaction. Dautenhahn (1999) commented that an individual should be capable of nurturing and maintaining relationships with people, to negotiate collective reciprocal actions which assist a person to assimilate their own elementary interests with social customs and norms. Westwood (2009, p. 14) defines social skills as being "the specific behaviours an individual uses to maintain effective interpersonal communication and interaction with others". Some examples of social skills include receiving and extending compliments, asking for forgiveness, paying attention, engaging in discussion, maintaining good rapport with others, asking for help or consent, staying composed in stressful conditions, realising the importance of 'no', and reacting to guidelines.

In general, social collaboration necessitates the attainment of social expertise and the aptitude to utilise it. Social skills and communication are further developed from the home through the school environment. Piaget (1962) considers this an essential component of education. In the case of an autistic child, however, relationships, companionships and long-term livelihood prospects may be affected by the problems faced by the child in school and daily life, if he/she has been unable to acquire social skills during the primary phase (Carter, Meckes, Pritchard, Swensen, Wittman, & Velde, 2004). Children, in general, acquire social skills by observing and modelling on peers and their behaviours, through this modelling and copying repetitive process they improve their capabilities as they progress. This can be difficult for children with ASD, and as a result they fail to

recognise occasions to exercise these capabilities. Children with ASD can better understand social capabilities and social circumstances when those conditions and requirements are thoroughly and minutely itemised, clarified and rehearsed (NAS, 2016a).

Children with limited social capabilities may encounter teasing or bullying from their peers (Gasser & Keller, 2009), leading to immediate and enduring negative outcomes such as attitudes of non-acceptance, low-spiritedness, and insecurity (Salmon, James, Cassidy, & Javaloyes, 2000; Kumpulainen, 2008). Subsequently, children may refuse to go to school if they experience these in the school setting, resulting in further issues with behaviour if the child attempts to evade or shun the classroom or school context that they perceive as hostile (Ostmeyer & Scarpa, 2012). It can be surmised that apart from the immediate context, avoiding school due to issues with behaviour can have a long-term effect as individuals with ASD may continue to encounter significant challenges in social participation later in life.

Training in social skills is therefore a vital developmental requirement for children with ASD. The possibility of success in educational as well as social situations is known to be greater with than without such training. Not only does training enable individuals to deal with the challenges of social interaction, it also strengthens their coping strategies. Ghaziuddin (2005, p. 24) suggests taking into account "not only the strength and weaknesses" but also "the severity and subtype of the disorder, the age of the individual" before planning any social skills interventions for individuals with ASD, a view confirmed by McLeod, Malatino, and Lucci (2016) among others.

Studies (Gray & Garand, 1993; Kagohara et al., (2013)) have evidenced that social skills can be taught successfully to children with ASD. Whether these skills can be applied outside the specific setting in which the training was provided, that is if the skills can be generalised, is a challenge. If training was provided in the classroom, a child with ASD may be able to replicate the behaviour in the same location and setting but not in a different location or setting, such as in the home, in the context of a cafeteria or in the playground (Loomis, 2008). This can be attributed to the inclination of children with ASD to demonstrate their learnt skills only with the individual who trained them or only in the location/setting where the training took place (Loomis, 2008). It is thus important that children with ASD participate in social skills training programmes which enable their

long-term and effective participation in society rather than just concentrating on interim educational outcomes. Additionally, trainers should enable children to demonstrate learned techniques to others by reinforcing and practising the training with others. Reinforcement enables children to utilise learned techniques within social environments (Loomis, 2008).

Some researchers (e.g., Baker, 2003; Güral, Sezer, Güven, & Azkeskin, 2013) have emphasised the importance of providing social skills development training to individuals with ASD as early as possible after detection (for instance, during early childhood) since the development of social skills can strongly influence on their future progress. Another aspect is the location, context or environment in which the social skills are acquired. Young children, for example, have the opportunity to acquire social capabilities, such as interacting and cooperating with peers and others, at school. They would not necessarily have the same opportunities in their home environments (Ghaziuddin, 2005). It can therefore be concluded that teachers must seek suitable social skills interventions for children with ASD that can be utilised in the school setting, as these may have more chance of success in terms of children being able to generalise the required skills across different contexts.

Since the current study is oriented towards social skills improvement of students with ASD, the following section will provide a brief overview of some social skills interventions that are popular in Saudi Arabia and other parts of the world.

3.7 Popular Social skills Interventions

As already discussed, it is necessary for autistic individuals to acquire skills that facilitate for them the social skills to efficiently converse as well as socialise with people, in order to develop working relationships. Children, in general, acquire social skills by observing modelled behaviours from their peers or adults, and subsequently engaging in imitative behaviours of their own. However, these are exactly the issues which the children with ASD find more difficult. Consequently, various research studies and educational organisations have undertaken efforts to modify existing structures to reduce the effect of these problems and to discretely 'scaffold' the learning behaviours of children with ASD and support their social skills. Table 3.1 summarises some popular social skills interventions available for individuals with ASD.

Table 3.1: Social skills interventions for individuals with ASD

Intervention name	Description	Time required	Applicable age groups	Area of application
Applied Behaviour Analysis (ABA) or Discrete Trial Training (DTT) (Lovaas, 1987)	Also known as the Lovaas Method (after Dr. Ivar Lovaas). The emphasis in this method is "managing a child's learning opportunities by teaching specific, manageable tasks until mastery in a continued effort to build upon the mastered skills". Furthermore, in ABA, a child is trained in the particular competencies to aid him/her to inherently acquire knowledge from the surroundings.	20-30 hours per week across situations	2-6 years	• Cognitive skills • Language skills • Adaptive skills • Compliance skills • IQ • Social functioning
Developmental, Individual-Difference, Relationship-Based model (DIR/Floortime) (Wieder & Greenspan, 2001)	Clinicians, parents, and teachers learn about the strengths and limitations of the child through challenging yet child-friendly play experiences, thus obtaining the capacity to personalise interventions as required while reinforcing the connection between parent and child and nurturing the child's social and emotional development.	14-35 hours per week	2-5 years	• Functioning in society • Emotional operation • Data collection
Picture exchange communication system (PECS) (Bondy & Frost, 1994)	Communication system created to facilitate the building of fundamental language skills in students, ultimately resulting in unprompted interaction. The layered intervention aids the	As long as the child is engaged, typically 20–30 min per session	2 years – adult	• Linguistic and verbal development • Social interactive conduct

Intervention name	Description	Time required	Applicable age groups	Area of application
	student in discovering how to recognise, differentiate between, and then swap various symbols with another individual as a method to convey a need.			
Video modelling	Involve a child watching videotapes of positive samples of peers, adults, or him- or herself participating in a conduct that is being imparted. Video modelling can be in three modes: Other as model, self as model, and point-of-view modelling (Shukla-Mehta, Miller, & Callahan, 2010).	Time requirements vary per video.	3-20 years	• Social interactive conduct • Practical competencies for living • Receiving and Responding to questions • Perplexing conduct
Social Stories™ (Gray & Garand, 1993)	Individualised stories that methodically illustrate a circumstance, capacity, or idea using appropriate social prompts, outlooks, and typical reactions, modelling and offering a socially acknowledged choice of behaviour.	Time requirements vary per story; approximately 5–10 min prior to difficult situation	2-12 years	Pro-social conduct

Intervention name	Description	Time required	Applicable age groups	Area of application
Treatment and education of ASD and communication related handicapped children (TEACCH) (Schopler & Reichler, 1971)	Aids in task accomplishment by offering precise coaching and pictorial reinforcement in a carefully regulated setting, intended to deal with the distinctive task requirements of a student.	Up to 25 hours per week (during the school day)	6 years to adult	- Imitation Perception - Gross motor skills - Hand–eye coordination - Cognitive functioning

Source: Ryan, Hughes, Katsiyannis, McDaniel, & Sprinkle (2014, pp. 97-98); Delano (2007)

Since the objective of this study is to examine the perceptions of teachers regarding the use and effectiveness of Social Stories™ as a social skills intervention for children with ASD, the next section will discuss Social Stories™ in detail.

3.7 Social Stories™

3.7.1 What are Social Stories™?

Social Stories™ are "short stories which describe social situations in terms of relevant social cues and often define appropriate responses" (Gray & Garand, 1993). In other words, a Social Story™ is a brief narrative that is personalised and depicts an individual, a capability, an event, theory, or setting:

> A Social Story™ describes a situation, skill, or concepts in terms of relevant social cues, perspectives, and common responses in a specifically defined style and format. The goal of a Social Story™ is to share accurate social information in a patient and reassuring manner that is easily understood by its audience. (Gray, cited in Welton, 2014, p. 43)

Social Stories™ were founded based on the increasing agreement among scholars that children with ASD do not have the ability to interpret and comprehend social prompts and conditions and process and address the views of others, along with difficulties with framing suitable oral or behavioural responses to such social happenings (Attwood, 2000; Gray & Garand, 1993; Sansosti et al., 2004). Accordingly, Samuels and Stansfield (2012,

p. 273) observed that "Social Stories™ are based on the premise that people who are on the ASD have an impaired ability to 'read' and understand social cues and situations and the perspectives of others." In other words, individuals with ASD exhibit considerable difficulty in recognising the conduct, attitudes, and objectives of other people. The reasoning therefore supports the notion that such learning-behavioural issues frequently result in shortcomings in social interaction, such as the ability to stick to a theme when conversing (Sansosti, 2008).

Taking these shortcomings into consideration, children with ASD may not benefit as much from conventional methods of teaching (for instance, straightforward skills coaching, roleplays, individual advice, etc.) as their peers who are appear to be following a normal, chronological expectations-based progression in learning and behavioural development. This is because conventional teaching is based on a dynamic exchange of mutual social communication between children and teachers. Consequently, such lessons will be ineffective for children with ASD as they frequently do not correctly understand social cues and prompts (Frith, 1989).

Social Stories™ offer individuals with ASD information about their surroundings that they might not assimilate on their own (Sansosti et al., 2004). The purpose behind Social Story™ interventions is therefore to provide individuals with ASD the information they lack about a situation/capability/etc. so that they can respond appropriately in social situations. The goal of a Social Story™ is not to modify behaviour; rather to help an individual with ASD to respond to a social situation by facilitating their depth of understanding of the situation. This is achieved by relaying factual information about the situation, such as listing the sequence of activities to be followed in a cafeteria queue, in a patient and reassuring manner so that they can be assimilated and understood without any difficulty by children with ASD. As described earlier, individuals with ASD are characterised by deficits in interactive and social capabilities, as well as repetitive, restrictive behaviours and interests. Consequently, they often fail to recognise what is or is not acceptable in a specific situation. Social Stories™ aim to bridge that gap by offering them the information necessary to recognise a situation and respond to it.

Social Stories™ can therefore be used to enhance the knowledge and comprehension of a child with ASD with reference to the interrogatives what, why, who, when, etc. within social events. This is an approach that may have more potential to be effective, since the

child is utilising the story not only as a means for learning, but also as an instrument to comprehend and adopt suitable behaviours required for effective social communication (Sansosti, 2008).

The theoretical rationale underpinning the use of Social Stories™ interventions is associated with cognitive theories on ASD, which posit that social challenges may be related to shortcomings in 'theory of mind' (Baron-Cohen, Leslie, & Frith, 1985) or weak central coherence (WCC) (Frith, 1989; Happé, 2000). (Please refer to Section 3.3 for more details). Stated simply, people with WCC focus on the surrounding and perhaps irrelevant details of a situation or concept, thus failing to understand the concept. In fact, Kanner (1943), who first drew attention to this central feature of individuals with ASD, described it as:

> …an inability to experience wholes without full attention to the constituent parts... A situation, a performance, a sentence is not regarded as complete if it is not made up of exactly the same elements that were present at the time the child was first confronted with it (p. 246).

The following section will explain the features of Social Stories™.

3.7.2 Features of Social Stories™

Gray (2010) specifies 10 defining criteria to guide Social Story™ development in order "to ensure an overall patient and supportive quality, and a format, 'voice', and relevant content that is descriptive, meaningful, and physically, socially, and emotionally safe for the audience."

Gray (2004) provides a definitive group of features / guidelines for Social Stories™ (Social Stories™ 10.0), typically in checklist format. Subsequent revisions and reorganisation resulted in Social Stories™ 10.1™ (Gray, 2010) and Social Stories™ 10.2™ (Gray, 2014). The fundamental features defining Social Stories™ since their first use have, however, remained fairly stable. It can be inferred that interventions for individuals with ASD are not static and change with the times. As awareness grows about what works and does not work in an intervention, it is only natural that the intervention is also adapted. Table 3.2 provides Gray's (2004) Social Story™ checklist.

Table 3.2: Gray's Social Story™ checklist (Social Stories™ 10.0)

Sl #	Social Story™ feature	Comments
1	The Goal. A Social Story™ meaningfully shares social information with a patient and reassuring quality, and at least 50% of all Social Stories™ applaud achievements.	A Social Story™ must be written in an affirmative tone to encourage a positive response from the target child. This is applicable irrespective of the kind of behaviour being addressed by the story.
2	A Social Story™ has an introduction that clearly identifies the topic, a body that adds detail, and a conclusion that reinforces and summarises the information.	As in most formal writing, a Social Story™ can be structured with a clear introduction, body and conclusion. The introduction is used to present the topic, the body to add information and the conclusion to review and strengthen what has already been described.
3	A Social Story™ answers 'wh' questions.	<u>Where</u> - the setting <u>When</u> - the occasion or instance <u>Who</u> - other participants in the situation <u>What</u> - significant prompts <u>How</u> - principal actions or responses <u>Why</u> - motivation for the behaviour
4	A Social Story™ is written from a first or third person perspective.	The first person perspective is typically used for a very young or severely challenged child. The third person perspective is usually for a more advanced child, adolescent or adult.
5	A Social Story™ uses positive language.	No mention is made of inappropriate behaviour; appropriate responses are provided.
6	A Social Story™ always contains descriptive sentences, with an option to include any one or more of the five remaining sentence types (perspective, cooperative, directive, affirmative, and/or control sentences.	The use of descriptive statements is mandatory. Other statements can be used as appropriate.

Sl #	Social Story™ feature	Comments
7	A Social Story™ describes more than directs, following the Social Story™ formula.	Two Social Story™ ratios exist. The "basic" ratio consists of two to five descriptive, perspective, and/or affirmative sentences for every directive sentence in the story. The "complete" additionally takes control and cooperative sentences into consideration. Irrespective of the ratio, the Social Story™ must describe more than it directs.
8	A Social Story™ has a format that is tailored to the abilities and interests of its audience, and is usually literally accurate. (Considerations include Story length; organization and sentence structure; repetition, rhythm, and rhyme; modifications in vocabulary and literal accuracy including careful selection of verbs and alternative vocabulary; and possible use of metaphors or analogies if they are understood by the audience.)	The use of analogies or metaphors should match the social and cultural environment of the child. The story itself should not be open to interpretation. In other words, it should not be misunderstood by an autistic child who cannot differentiate between the abstract or literal meaning of a word or picture.
9	A Social Story™ may contain individually tailored illustrations that enhance the meaning of the text.	Pictures can include graphics or cartoons or photographs of real-life scenes. Including pictures of the target child can improve his/her association with the story.
10	A Social Story™ title meets all applicable Social Story™ criteria.	The criteria are: 1. Shares information, the topic or most important point of the story; 2. Poses or announces answers to the most important 'wh-' questions; 3. Written from a first-person perspective; 4. Uses positive language or announces something the child currently does well; 5. Easily understood and interesting to the child.

It can be concluded from the items in Gray's checklist that Social Stories™ must have a definite structure and that the language, content and illustrations must be carefully chosen

to have the greatest impact. Knowing the characteristics of the individual with ASD for whom a story is being developed is therefore essential. In summary, Social Stories™ have the following goals: perfecting suitable conduct, decreasing unsuitable conduct, offering coaching for procedures and customs, imparting skills, assisting transitions, and acclimatising to new situations (Constantin, 2015). In other words, the emphasis of Social Stories™ is placed upon improving the participation of a person with ASD in a social situation.

3.7.3 Developing and Using Social Stories™

Several factors provide guidance for developing a Social Story™. These will be discussed briefly in this section.

The first factor to be taken into consideration for developing a Social Story™ is the type of sentences to use. Different studies have highlighted a number of sentence types for use in a Social Story™. Gray (1995) initially described four types: 'descriptive', 'perspective', 'affirmative', and 'directive' sentences. Subsequently, two further types, 'control' and 'cooperative' sentences (Gray, 2000; Crozier & Tincani, 2007) were added. A seventh sentence type not described by Gray has also been assimilated: 'consequence' sentences (Reynhout & Carter, 2006). Table 3.3 lists the different types of sentences.

Table 3.3: Types of Sentences used in a Social Story™

Type of Sentence	Description	Example
Descriptive sentences	Answer 'wh' questions—where does the situation take place, who are involved, what occurs and why? Portray information accurately and objectively.	Children play with each other in school.
Perspective sentences	Refer to the thoughts, perceptions, opinions, emotions, or physical/mental welfare of others.	Teachers like it when children stand in a queue in the cafeteria.
Affirmative sentences	Increase the meaning of the preceding sentence (which may be descriptive/perspective/directive) and can be used to highlight the significance of the message or to reassure the person.	(I will try to stand quietly in the queue). This is very important.
Control sentences	Statements provided to recognise techniques to recollect or apply the information in the Social Story™	My body needs food several times per day; just like a car needs fuel to run.

Directive sentences	Provide an appropriate response or range of responses for behaviour in a specific setting. Focus on optimistic outcomes and should be composed to avoid rigidity.	I will try to cover my mouth when I cough.
Cooperative sentences	Identify how others may support the individual.	A cafeteria helper will help me fill my plate.
Consequence sentences	Provide information on the outcomes when particular actions occur or are performed.	When I eat my food neatly, my friends will want to eat with me again

A basic Social Story™ has a ratio of two to five descriptive, perspective and/or affirmative sentences for every directive sentence. On the other hand, a complete Social Story™ has a ratio of zero to one directive or control sentences to between two and five descriptive and/or perspective sentences (Reynhout & Carter, 2006). Rowe (1999, p. 12) observed that the use of this formula (also known as the Social Story™ formula) "means that the person with an autistic spectrum disorder is given enough detailed information about the target situation to ensure that the story does not become a list of things to do." It can thus be inferred that the ratios help to track the frequency of the different kind of sentences used in a story so that the author can avoid the story simply becoming a long list of directive sentences. Moreover, the number of sentences is not the main concern in a Social Story™; rather, it is the completeness and accuracy of information that requires careful consideration.

According to Washburn (2006) not all sentence types need to be incorporated into every Social Story™. Instead, each sentence may comprise lengthier and more intricate sentences and phrases (Dodd, Hupp, Jewell, & Krohn, 2008). Brownell (2002) stated that the main function of Social Stories™ was to add and dispense data rather than issue instructions or commands. Gray (1998) and Brownell (2002) found that excessive use of directive sentences in a Social Story™ made it appear like a rulebook. Phrases such as "I will try to…" or "I will work on..." are believed to be more appropriate than phrases such as "I must" or "I will…" This could be because the latter phrases sound like the individual with ASD does not have any other choice but to mimic the action/response mentioned in the sentences. Merely providing instructions to a person with ASD will not help as they cannot understand why a certain response is required at a certain time, and Social Stories™ should endeavour to fill that gap.

The second factor to be taken into consideration for developing a Social Story™ is the elements of the story. Doyle and Iland (2004) propose that Social Stories™ should contain the following elements:

(1) Explanations of key features—who will be in the story and when, where and what will occur;

(2) Explanations of the varieties of optimistic sentiments that the affected person may experience, opinions that may build up in his/her mind, and a narrative of the individual's proposed behaviour;

(3) Explanations of the thought processes of other people or the sentiments that they may go through;

(4) A list of actions that the individual may consider next

A third factor to be taken into consideration is the approach to developing and using the story. Gray (1998) and Gray and Garand (1993) described the basic steps involved in developing a Social Story™ intervention. First, participants should be in the "trainable mentally impaired range or higher who possess basic language skills" (Gray & Garand, 1993, p. 2). Next, a specific social situation must be identified. This could be a particular social skill or aspect of behaviour that has been persistently difficult for a child in spite of previous interventions. The following stage consists of recognising the important features of the situation (place of occurrence, people involved, duration, situation, triggers). Inputs are gathered from caregivers and teachers with regard to the child's response to the activity and details of the resulting behaviour. Additionally, data are collected concerning the child's strengths and weaknesses such as level of language comprehension, reading level, and his/her perception of the social skill or behavioural aspect. This information gathering is essential to establish the frequency of the specific behaviour and to provide a baseline for comparing a child's behaviour before, throughout and after the Social Story™ intervention.

Furthermore, this information aids in determining the level of writing that can be understood by the child with ASD. The third step involves sharing the behavioural data with the child and other relevant individuals (parents, carers). The collected data are then utilised to create a Social Story™. The emphasis of each Social Story™ differs, but the common factor is that all highlight a specific skill and the behavioural steps required to

successfully manage the situation (Sansosti, Powell-Smith, & Kincaid, 2004). If a child with ASD is unable to ask for snacks during snack time at school, for example, a teacher or teacher's aide could create a Social Story™ that depicts the sequence of activities involved in requesting a snack, the different people involved in the activity, and the possible responses and dialogue involving the child in the transaction about the snack The story's central character could demonstrate characteristics similar to the individual who is with ASD for whom the story is being developed. In some cases, a photograph of the individual with ASD is used to depict the central character, thus forming a personal connection to the story and potentially more receptiveness to access and assimilate approaches to modify or regulate behaviour. It can be seen that the development of a Social Story™ is centred on its target audience, that is, an individual with ASD. Failure to focus on the individual could in some cases lead to the Social Story™ being ineffective.

Crozier and Sileo (2005) also propose some additional and corresponding stages required for optimising the use of Social Stories™. These are: recognition of requirements, implementation of valuations, considering Social Stories™ as part of a more general proposal to develop models of behaviour generating the Social Story™, implementing the intervention, noticing the children's progress, and investigating the collected data. It can be seen that although Crozier and Sileo (2005) seem to have a few more stages with regard to the development and use of Social Stories™, there is an overall overlap of purpose. In other words, the creation and use of Social Stories™ does encompass some level of preparation, with regard to identifying a situation, and evaluation, with regard to assessing the status of an individual with ASD before and after the use of a Social Story™.

Additionally, Rust and Smith (2006) suggest a few different interventions that could support the practical use of Social Stories™. They suggest that instead of using an individual child as the subject of an intervention, a larger sample of children could be included. A wider group would supply behavioural and learning style data that would help to gauge the efficiency of the selected Social Stories™. They also recommend that the interventions should target specific behaviours and perform an in-depth analysis of the results in those areas, while also looking out the potential generalisability of these behaviours across contexts. The developers of Social Stories™ should thus explore the applicability of a single Social Story™ for an audience wider than a single individual. Moreover, the introduction of cues to help the audience recognise when a specific response is to be used regardless of the setting would extend the impact of the Social

Story™. Furthermore, Rogers (1998) believes that certain factors, such as the individual's age and severity of ASD, must be observed and taken into consideration when judging the effectiveness of the intervention. The scheduling of the story and the subsequent occurrences of the aimed circumstance must similarly be conceived as vital components (Gray, 2012). Rust and Smith (2006) suggest that taking both the frequency and the duration of the observed behaviours into consideration can offer a more comprehensive interpretation of the efficacy of a Social Story™ in facilitating behavioural change.

Schools offer numerous approaches for autistic children to familiarise themselves with diverse types of suitable behaviour. A child with ASD could learn how to borrow or check out books from the school library or how to behave appropriately in the process of greeting visiting grown-ups in the hallway, for example. Social Stories™ can be convenient and easily implemented in schools (Scattone, Wilczynski, Edwards, & Rabian, 2002). However, Gray (2004) observed Social Stories™ are not to be misunderstood as a behaviour management tool for the use of teachers. They are not intended to ease or facilitate a teacher's handling of a classroom including children with ASD. Rather, Social Stories™ are a tool to help an individual with ASD better comprehend and cope with his or her surroundings.

Social Stories™ can be used to achieve various goals in a classroom with respect to developing specific aspects of effective learning for children with ASD such as describing a situation; providing a method to customise social skill-related instructions to the needs of the child; describing a teaching routine which can help identify prompts for responses and also interpret the responses of other children; preparing children for changes in routine, and decreasing disruptive conduct by teaching the child to have suitable strategies for dealing effectively with rage. Social Stories™ can also be used as a vehicle for academic instruction, particularly in the teaching of certain aspects of mathematics and writing (Gray, 1994; Gray & Garand, 1993).

The normal procedure for using a Social Story™ in a classroom would be to establish a daily routine involving the presentation of the story to the child prior to beginning the activity for which the story was created. The frequency of this routine can be reduced based on the speed at which the child learns the desired behaviour.

3.7.4 Factors affecting the use of Social Stories™ with children with ASD

This section describes the factors affecting the use of Social Stories™ with children with ASD. Barriers are first described followed by advantages and limitations. The section ends with a brief overview of the criticisms about Social Stories™ as an independent intervention.

Barriers to using Social Stories™ with children with ASD

Several barriers may hinder the effective use of Social Stories™ as a pedagogical or socio-behavioural intervention for children with ASD. Firstly, the resources required for implementation may vary across schools, while the needs of children with ASD can be extremely diverse. Finally, religious or cultural issues may affect the child's acceptance of the Social Stories™.

The effective use of Social Stories™ requires some preparation in terms of teacher training, classroom resources and technology (for example, computers and videoconferencing). Samuels and Stansfield (2012) observe that teachers must fully understand the use of Social Stories™; specifically, the basis for using Social Stories™, the goal(s) to be achieved, and the role of repetition and uniformity in use of Social Stories™. Lack of teacher training limits the use of Social Stories™ in improving social skills. Moreover, it is recommended that teachers adapt materials or the class structure to help increase involvement, through co-construction, self-regulation, and learner autonomy, (Boyle & Charles 2013; Charles and Boyle 2014), interest in and understanding of the classroom routine (Mancil & Pearl, 2008). Presenting information in more than one way further improves the efficiency and effectiveness of learning. Learning can be enhanced by providing more visual or hands-on materials, for example (Roberts & Joiner, 2007). In publicly aided schools, however, teachers may have limited flexibility to procure additional material to accommodate different learning styles.

Information and Communication Technology (ICT) has been used in the research and training of children with ASD over the past decades (Aresti-Bartolome & Garcia-Zapirain, 2014). Their availability to individuals and researchers has increased only recently, however (Ploog, 2010) as there has been significant progress over the last decade in access to advanced computer technologies. The general public has access to a wider range of technological appliances than a few years ago (smartphone apps, for example). This trend

has further promoted increased use of computers in supporting areas of skill development, such as language, emotion recognition, theory of mind, and social skills, in people with ASD (Aresti-Bartolome & Garcia-Zapirain, 2014; Ploog, Scharf, Nelson, & Brooks, 2013). The use of technology to support Social Stories™ has been reported to offer numerous advantages such as the use of visual information to improve meaning which is particularly useful as several children with ASD are visual learners (Grandin, 2006). Parents and professionals who desire to use Social Stories™ can use ICT to develop effective stories which will aid in teaching social skills to individuals with ASDs. Furthermore, technology provides carers with more tools to customise stories by simplifying the use of video clips, graphic images, digital pictures, animated characters, and sound files to suit the developmental age, style of learning, reading level, span of attention and special interests of an individual with ASD (Doyle & Arnedillo-Sánchez, 2011).

Technology can be a significant asset in the use of Social Stories™. Doyle and Arnedillo-Sanchez (2011), for instance, observed that technology not only facilitates the individualisation of each story to a person with ASD, but can also take into consideration developmental levels, academic reading ability, learning styles, attention span, and particular interests. There may, however, be some challenges. Financial constraints such as school resource budgets for purchasing new computers or multimedia software, and infrastructure limitations, may affect the ability to make use of technological solutions (Chan, 2009).

Another significant barrier to the use of Social Stories™ for children with ASD is that their range of educational needs can vary greatly. Children enter school at different levels of experience and academic skill. A child's unique profile will require differentiated education programmes (Guldberg, Parsons, MacLeod, Jones, Prunty, & Balfe, 2011). Therefore, teachers should be trained to have the range of pedagogical strategies and methods to differentiate both academic and social skills teaching to the level of the individual child. This helps a child to maintain his/her level of learning development (Rota, 2011). As children's profiles also vary (e.g. ethnicity, culture, social status, family background), teachers must be aware of these characteristics and use a wide variety of teaching techniques, taking into consideration physical factors (for example, classroom arrangement), modification of teaching routines, and use of a child's existing knowledge (Humphrey, 2008; Jones, English, Guldberg, Jordan, Richardson, & Waltz, 2009); Leach

& Duffy, 2009;). Children with ASD are diverse and hence have varied learning styles, abilities, interests and preferences. An inclusive teaching approach needs to be considered carefully in a mixed ability classroom to accommodate children with ASD.

Opportunities for differentiation include curriculum adjustments (Lynch & Irvine, 2009), increasing the predictability and routine of the school schedule, providing sufficient notice of schedule changes (Lynch & Irvine, 2009), offering support for movement between classes and annual transitions such as leaving school for a vacation or returning to school after a vacation (Stoner, Angell, House, & Bock, 2007), modifying the classroom environment to reduce disturbance, responding to the individual student's sensory needs and preferences (Deris & Di Carlo, 2013), and utilising teachers who are trained in working with children with ASD (Charman, Pickles, Simonoff, Chandler, Loucas, & Baird, 2011) and are capable of adapting and differentiating their teaching methods accordingly (Jordan, 2008).

Social Stories™ can be one of the teaching approaches that can be customised to address specific learning needs. A Social Story™ cannot be used without a significant amount of preparation of the environment for its effective implementation, however. Furthermore, even after Social Stories™ are accepted in the environment, each Social Story™ will have to be reviewed for its fitness of use with a different child or group(s) of children.

Advantages and Limitations of using Social Stories™ with children with ASD

According to Gray (1994), Social Stories™ are explicitly intended to benefit children with ASD as well as to enable the teachers to train children to regulate their otherwise potentially disruptive conduct in the classroom.

Social Stories™ have positive aspects can teach simple self-care strategies like having a meal or washing hands, or social communication skills like introducing oneself, asking for forgiveness, maintaining etiquette, etc. Furthermore, Social Stories™ can build educational expertise (Johnson, 2015). These teaching and learning strategies and interventions assist children to conduct themselves in a specific environment and a child's reaction to a specific circumstance is demonstrated to teachers, parents and fellow children. All of these aspects enable the children to cope with the likelihood of unforeseen changes in their daily routine. In the absence of Social Stories™, this WCC in children with ASD could prevent them from precisely understanding their surroundings (Frith,

2003).

As these individuals have difficulty integrating and processing all the information they receive, they fail to reach an understanding of what they have actually observed due to their difficulty in assimilating and handling the facts obtained (Kokina & Kern, 2010). Thus, it can be seen that taking due care to ensure that a person with ASD receives the right amount of information to ensure that they are able to assimilate what has been received and to process and use it.

Social Stories™ have been shown to positively impact the social development of children with ASD (Smith, 2001). The best method of cementing children' expertise in anticipating social and reciprocal actions is by repeating the stories numerous times. Furthermore, children can benefit from the participation of both parents and teachers, as an opportunity to address areas of concern. Consequently, stories are regularly made as a method of testing a student's current level of reading based on a learning relationship with the educators, carers and parents. It is therefore vital to remember that children with ASD may face several problems in interpreting and following a theme or plot. Studies on the consistency and memory of children with regard to narratives (Capps, Losh & Thurber, 2000; Diehl, Bennetto, & Young, 2006; Randi, Newman, & Grigorenko, (2010) have observed that children were able to recollect important occasions and circumstances that had been depicted in a narrative, such as a frog sneaking into a baby's pram (Capps et al., 2000). It was also found that both teachers and parents had problems with misinterpretation, as the pupils faced problems in establishing and arranging the narrative events in a logical order. In spite of the many challenges involved, researchers (e.g., Schreiber, 2011; Tartaro & Cassell, 2006) have suggested that it is critical for children with ASD to be supported to read and be helped by 'scaffolding' their comprehension of those narratives, supplied by Social Stories™, since these can aid them in developing their social and practical skills as narratives are often a dramatised rehearsal or reproduction of real life events (Charles & Boyle, 2014).

Chan and O'Reilly's (2008) study explored the usefulness of Social Stories™ in an experiment that examined teachers' interventions with individuals using this structured method. The study involved two children with ASD who read Social Stories™, answered questions, and engaged in role-play. Teachers in the experiment first implemented structured Social Stories™ that were related to certain behaviours, which were determined

before the experiment, such as inappropriate social interactions or inappropriate hand raising. Children then read the stories out loud. Six stories were used in total, with different target behaviours being addressed in each story. By projecting the story on a white background without any extra input and by employing a large font size, the children could sustain their attention. The pupils were asked to answer some evaluation questions after reading the story; if they were not able to give the correct answers they were asked to read the story again. After this, the teacher involved the children in re-enacting the events of the Social Story™, explaining their roles to them. The teacher verbally assisted the children who had problems in answering the questions asked during the re-enactment.

This process of re-enacting the Social Stories™ helped to reduce unsuitable behaviour, as it helped the children to engage more deeply with the narrative. In other words, the use of role-play or re-enactments along with the Social Stories™ aided in the assimilation of behaviour. Wright and McCathren (2012) found that their research study sample of teachers were not necessarily required to undergo further training to use Social Stories™, as the methodology could be easily implemented across settings and different users. The need for further training may, however, be necessary depending on the experience and skill levels of other groups of teachers. Furthermore, the sample children with ASD in this study were found to be able to conduct themselves well and they could remember and recall what they had learnt through Social Stories™ although their behaviour did not improve to the extent required to match or exceed the behaviour of their peers in similar contexts. It can thus be surmised that teachers find Social Stories™ easy to use and that children with ASD demonstrate improvements in behaviour after a Social Story™ intervention.

It is also necessary to discuss the negative aspects of Social Stories™ despite the above listed of positive outcomes. The study conducted by Kuttler, Myles, and Carlson (1998), which examined the effectiveness of Social Stories™™ in positively developing behaviour in a 12-year-old boy with ASD, found otherwise. The boy's problematic behaviour initially reduced post-intervention, but the behavioural issues and problems soon returned. This could have been due to the subject having lower-functioning autism, or that his receptive communication skills were higher than his expressive skills.

Another factor could have been the relatively short duration of the intervention (19 days). Karkhaneh, Clark, Ospina, Seida, Smith, and Hartling (2010) reported six studies that

confirmed favourable outcomes from the use of Social Stories™ for providing short-term improvements in social behaviours among children with ASD. They suggest that Social Stories™ interventions may be useful in the modification of selected behaviours, but that the effects may be short-lived. They posited that this could be attributed to the short duration of interventions and the short time to outcome assessment (same day to six weeks later). They therefore suggested that additional research would be required to determine the ideal frequency and contextual variables of Social Story™ use to obtain optimal outcomes and to measure the enduring effects of using Social Stories™. This view was supported by Sani Bozkurt and Vuran (2014) who found that several studies on the use of Social Stories™ did not report positive data relating to maintenance and generalisation of the social skills worked on through the Social Story™ intervention.

Due to this lack of evidence regarding the generalisability of Social Stories™™, it can only be stated that at this stage of the research evidence data collection and analysis process that no firm conclusions can be made as to whether they must be regarded as a short-term rather than a long-term intervention. It is clear that the evidence concerning the maintenance of behavioural change in the longer term following a Social Story™ intervention is not conclusive.

Researchers have observed that Social Stories™ enjoy widespread use (e.g., Weiss, 2013; Karkhaneh, Clark, Ospina, Seida, Smith, and Hartling (2010). Their efficacy is yet to be established, however (Foster, 2015; Johnson, 2015). Moreover, despite the highlighted negative outcomes of using Social Stories™, they are best used in collaboration with other types of intervention to gain better results. Owing to the lack of experimental controls, the various problems involved (such as quasi-experimental strategy of investigation missions or pre-/post-intervention strategy) that have been documented by investigators are hard to understand (Hutchins, 2012). This can make it difficult to gain the desired outcomes concerning interventions. Moreover, what are cited as 'poor' Social Stories™ have not been rigorously evaluated or evaluated against standardised criteria, to use the results to tailor them for maximum proficiency, as one the variables in their development is that the conception and creation of Social Stories™ rests with the parents and educators (Sansosti et al., 2004).

It has been stated, however, that Social Stories™ overly rely on the skills of the writer (Gray, 2004) and, inevitably, unless there is congruence of contents and aim of story and

ASD child's need and specific requirements, the positive developmental learning effect will not occur. The necessity for Social Stories™ to be custom-made for specific situations for educational purposes is at the core of this issue. Some recommendations and instructions therefore need to be created and standardised to demonstrate the optimal way to write an effective Social Story™ for the benefit of individuals with ASD.

Criticisms about Social Stories™ as a single intervention

As seen previously, some studies (Kuoch & Mirenda, 2003; Smith, 2001) are in agreement that Social Stories™ offer some advantages concerning improvement of social skills in children with ASD and are appropriate for use in a school setting. There is, however, also a school of thought which posits that the resultant favourable changes in conduct cannot be attributed to Social Stories™ alone; rather to the combined actions of teachers and parents working together to provide reinforcement and perhaps the use of other interventions through the day (Watts, 2008). Parents may have already initiated some forms of intervention at home to aid their children in social participation, thus some level of support may be in place by the time a Social Story™ intervention is initiated in school. Similarly, teachers may also use other interventions which serve to increase the success of a Social Story™ intervention.

In a comprehensive review of 46 studies on Social Stories™, Test et al., (2011) discovered that most of these studies took into account instances in which the stories were not the sole intervention, but a component in a larger support package. Accordingly, Test et al. (2011) determined that there was no variance in impact between Social Stories™ used alone and support packages within which Social Stories™ were only one element. This could indicate that while it is challenging to isolate the impact of the Social Stories™ in many instances, the stories could have been the crucial element that caused the intervention to be successful.

There appears to be a lack of evidence to substantiate either argument, however. Styles (2011) observes that despite critiques by earlier studies, researchers have persisted in failing to use Social Stories™ as the lone self-sufficient variable when designing their studies. Several reviewers (Ali & Frederickson, 2006; More, Sileo, Higgins, Tandy, & Tannock, 2013; Styles, 2011) have also drawn attention to the dissimilarities in the

manner in which Social Stories™ have been employed across studies. Ali and Frederickson (2006), for instance, observed in a group of studies performed in a ten-year period (1994-2004) using Social Stories™ varied in terms of participants (i.e., single or multiple). Moreover, some of the studies (Ali & Frederickson, 2006) used single case designs (including descriptive case studies and single case experiments) while others used group evaluation. More and colleagues (2013) measured the impact of two interventions, one which used only a Social Story™ (on groups of four children) and the other which used a Social Story™ along with a practice session intervention in an inclusive preschool setting, implemented with preschool age children both with and without disabilities. In contrast to other studies, More et al., (2013) found that the Social Story™ interventions were not effective in promoting behaviour modification in the children.

Scattone et al., (2002) drew attention to the differing outcomes from the use of Social Stories™ in an intervention where one child demonstrated a higher level of behavioural change than the other. They also suggested that differing outcomes could be attributed to a child reading a Social Story™ independently during the course of the intervention.

Some other studies describe using the Social Stories™ just prior to the situation in which the identified conduct will probably be encountered (e.g., Lorimer, Simpson, Myles, & Ganz, 2002; Sansosti and Powell-Smith, 2008; Scattone et al., 2002), whereas several other studies had no specific program for implementing the intervention (Almond, 2012). The former approach could be in assumed to concur with Samuels and Stanfield (2012) who suggested that Social Stories™ share the general premise of other approaches previously accepted as having favourable effects for enhancing social skills in people with ASD. They highlight two approaches; namely, written scripts (Krantz & McClannahan, 1998) and priming strategies (Zanolli, Daggett, & Adams, 1996), because Social Stories™ also can 'prime' the individual with ASD with the requisite responses to a specific social circumstance just prior to its occurrence. It could be assumed, however, that the scheduling (or non-scheduling) of the Social Story™ use could depend on the situation, the behaviour being addressed, or the needs of the individual with ASD for whom the intervention was designed. Another criticism levelled at Social Stories™ lays emphasis on the methodological flaws encountered in studies which report their use. Lord and McGee (2001) list various methodological issues in educational interventions including:

…information useful for describing samples; the benefits and practical problems of using randomized, clinical trial research design and the movement toward treatment comparison and aptitude-by-treatment interactions; the relative benefits and limitations of single-subject research methodology; assessing fidelity of treatment; potential use of current methodologies for modeling [sic] developmental growth of children and factors affecting growth; and group size. (p. 194)

Styles (2011) analysed 51 studies utilising Social Stories™ and determined that though several studies reported favourable outcomes, there were still methodological issues that resulted in an inadequate evidence base that was not robust enough to endorse Social Stories™ as a stand-alone evidence-based intervention (Aphale, 2015). Similarly, Leaf et al., (2012) performed a methodological review of studies that used Social Stories™ and reported that most of the studies demonstrated either only partial or no clear evidence that any behavioural change could be attributed to the use of a Social Story™. In the context of Social Stories™, it can be assumed that the methodological issues could include the timing of the intervention, the scheduling of the intervention, choice of subject (e.g., determined by parents or teachers), and so on.

Despite the success claimed for the Social Stories™ learning interventions, Reynhout and Carter (2006) argue that the proven impact of Social Stories™ was inconsistent, due to limited experimental controls and the simultaneous use of other interventions. Nevertheless, Ali and Frederickson (2006) argue that the increased popularity of Social Stories™ through a focus on case study and single-subject designs has had positive consequences from the practitioner viewpoint. Test et al. (2011) recognise the need for additional research investigating the effects of Social Stories™ without the influence of other methods. While combining multiple interventions may perhaps produce a more desirable output, that is the desired modification in behaviour which could be a reduction in anti-social behaviour or an increase in pro-social behaviour; however, the effectiveness of the Social Stories™ as a single intervention becomes unpredictable, as the outcome may or may not be a result of using the expected method.

Another debate on the effectiveness of the Social Stories™ has focused on the lack of strong study designs. Settings have been ambiguously described (e.g., Adams, Gouvousis, VanLue, & Waldron, 2004), experimental controls not demonstrated (e.g., Agosta, Graetz,

Mastropieri, & Scruggs, 2004), and participant selection criteria not adequately explained (e.g., Adams et al., 2004). A study by Adams et al., (2004), for instance, did not clearly designate the setting of the intervention, whether it was school, home, or another location. It must be noted that schools, health centres, or institutions were the setting in most of the studies which have explored the use of Social Stories™ in a learning environment (Sani Bozkurt & Vuran, 2014). Furthermore, Adams et al., (2004) did not report the criteria used to select the children for the intervention, while others (Barry & Burlew, 2004; Delano & Shnell, 2006; Dodd et al., 2008; Kuoch & Mirenda, 2003; Ozdemir, 2008; Scattone, 2008; Scattone et al., 2002; Thiemann & Goldstein, 2001) did not report the criteria used for the selection of the specific social skills to be isolated. Moreover, some studies (e.g., Adams et al., 2004; Agosta et al., 2004; Barry & Burlew, 2004; Hagiwara & Myles, 1999; Kuoch & Mirenda, 2003) did not report the approach to data collection or assessment. Experimental controls in the current context indicate the controlling of other variables that could influence the effect of the Social Story™ and can include small sample sizes, multiple baselines, multiple probes, and so on (Foster, 2015; Sani-Bozkurt & Vuran, 2014). Some of the studies demonstrated limited impact on targeted pro-social behaviours, for example, only two participants benefitted in the studies by Sansosti and Powell-Smith (2006) and Scattone et al. (2006) and three from the study by Toplis and Hadwin (2006). Besides these limitations, another predictable problematic issue is that excessively repetitive reading of Social Stories™ caused frustration, which in many cases resulted in the child's exclusion from participation in the intervention Kokina & Kern (2010).

Several researchers (e.g., Ali & Frederickson, 2007; Sansosti et al., 2004; Reynhout & Carter, 2006; Rust & Smith, 2006; Quilty, 2007) who performed reviews of studies which use Social Stories™ in an intervention observed that there is little focus on maintenance and generalisation effects, while the studies that include detail on maintenance and generalisation provide this in anecdotal form (Kuoch & Mirenda, 2003). Studies which investigated maintenance reported mixed results (Mancil et al., 2009), weak and inconsistent maintenance (Barry & Burlew, 2004) or no maintenance of the impact when the Social Story™ intervention was removed (Ivey, Heflin, & Alberto, 2004). On the other hand, Ozdemir (2008) and Crozier and Tincani (2005) observed reduced levels of disruptive behaviour after the Social Story™ intervention had been withdrawn, suggesting maintenance of the effects. Another perspective is that the reduction in maintenance can arise from the longer time spent reading the Social Stories™ and the inability of the

student to access, process and internalise the information. There is an absence of research focusing on the causes of low maintenance of social skills after such interventions, hence the need for more empirical research study evidence. Furthermore, this review has observed the presence of inconsistencies between the reported effects of Social Stories™™ interventions. Dodd et al. (2008) noted that although parents were not confident about the efficacy of Social Stories™™, they still continued to use them, perhaps because of the child's enjoyment. This shows that although sufficient literature is available on the effectiveness of Social Stories™™, there is a shortage of grounded research evidence. The sources of Social Stories™ will be discussed next.

3.7.5 Sources of Social Stories™

Scattone, Tingstrome, and Wilczynski (2006) and Thiemann and Goldstein (2001) point out that that the sources of Social Stories™ can influence their true efficacy. Social Stories™ can be procured from different sources such as commercial retailers, online stores, or developed by schools and by teachers themselves.

Ready-made Social Stories™ are widely available in bookshops and on the Internet. These may be generic, i.e. written to cover a broad range of social situations, hence they may not account for the specific religious or cultural context of the child (Ali & Frederickson, 2006). Furthermore, the methodology followed to develop the Social Stories™ may impact their efficacy in a particular situation. Adherence to Gray's (2004) guidelines for the development of Social Stories™ is recommended to ensure that there is a balance between the different kinds of sentences used in the story to avoid making the story simply a list of instructions. There is conflicting research-based evidence, however, that deviating from the guidelines can make Social Stories™ more effective, as a review of 16 studies by Reynhout & Carter (2009) found that stories that had deviated from the recommended ratio by using more directive than descriptive sentences generated better results than those which adhered more strictly to Gray's criteria. Such changes may not, however, be incorporated when stories are produced for commercial purposes. Teachers of children with ASD must therefore evaluate the suitability of the available Social Stories™ in the context of their students' specific educational needs and make modifications if necessary.

Apart from commercial purchase, schools also produce Social Stories™ for teachers. Teachers may also choose to develop their own Social Stories™ (Lynch & Simpson, 2005). These may be limited to the social situations that occur in the context of school

life (for example, interactions between children, or children and teachers) rather than more comprehensive examples looking at different everyday scenarios (for example, travelling on public transport, etc.). Ali and Frederickson (2006) observed that substantial changes have been made to Gray and Garand's (1993) original guidelines for Social Story™ creation. As described previously, the guidelines have now progressed to version 10.2. Teachers must therefore remain updated about such changes and access and include research-based evidence as part of the methodology for creating stories. For example, the use of illustrations in Social Stories™ was not originally advised as it was believed that the illustrations would lead to incorrect interpretation by the student (Gray & Garand, 1993). Gray and Garand did not suggest the inclusion of visuals such as photographs, because they felt that the child could get distracted from the main focus of the story. They provided an example of a picture of a boy tying his shoe while seated on a blue carpet next to a cat. As autistic children have a tendency to interpret scenarios literally, this might indicate to the child that shoes should only be tied by boys seated on blue carpets when cats are present. These guidelines were later modified to include pictures (Gray, 1995) with the caveat that the pictures lend themselves to literal interpretation and hence should be used with care.

This restraint was later overturned and the inclusion of illustrations alongside written text is now endorsed (Reynhout & Carter, 2009). This could perhaps be attributed to the benefits of visuals for individuals with ASD who are visual learners (Kokina & Kern, 2010).

Reynhout and Carter (2009) compared the Social Stories™ prepared by teachers with the guidelines prescribed by Gray (2000) and found that only one in every five stories could be classified as 'basic' while none qualified as 'complete' against those criteria. This shows that there is a vast discrepancy between what is expected from the Social Stories™ created by the teachers and what is actually produced for classroom use. There is therefore a clear indication that the outcome of the intervention could be affected. Reynhout and Carter (2009) also found through a survey of teachers that more effective Social Stories™ resulted when teachers deviated from the stipulated guidelines. The sample of teachers surveyed reported that they made use of Social Stories™ as an intervention because they found them simple to develop and use and considered them to be successful, although they did report challenges with maintenance and generalisation of behaviour. It can thus be inferred that teachers would use Social Stories™ due to their ease of development and use

in school settings. It also appears that teachers found that they had to use Social Stories™ repeatedly with the same subjects to achieve some level of maintenance and generalisation of behaviour.

It is recommended that teachers carefully evaluate the Social Stories™ obtained from various sources to identify the method used to create them and assess their suitability for use with a given set of children, taking into consideration their learning and behavioural issues. Teachers should also appropriately edit and customise the story as required for the specific education needs of children they work with. Methods of incorporating Social Stories™ in classrooms are discussed in the following section.

3.7.6 Methods of incorporating Social Stories™ in classrooms

The traditional method of administering a Social Story™ would be to read it to child with ASD, as Social Stories™ were originally printed on white paper with black ink (Gray, 1994). Haggerty, Black, and Smith (2005) believe that beneficial results can be obtained by modifying a Social Story™ as a differentiated strategy to meet children's complex learning and behavioural needs, however. Thiemann and Goldstein (2001) highlight the advantages of using visual stimuli to enhance social communication among children with ASD. Computer-generated multimedia Social Stories™ (Hagiwara & Myles, 1999), video models (Sansosti & Powell-Smith, 2008), 'apron storytelling' (Haggerty et al., 2005) and Comic Strip Conversations (Glaeser, Pierson, & Fritschmann, 2003) are some examples of modified Social Stories™. (These are described in the succeeding paragraphs). It must be clear, however, that the modification is only made to the delivery or implementation of the Social Story™, not the sentence structure or format. The main advantage of modifying the delivery of a Social Story™ seems to be that the likelihood of retaining a child's interest by visualisation and engagement is increased, whereas when a Social Story™ is repeatedly read out, a child may lose interest.

Multimedia Social Stories™ with audio capability allow for the story to be relayed to the child using computers (Ozdemir, 2008). The primary benefit of this method is the reduction in the time required for a teacher to sit with each child to read the Social Story™, as the child does not require assistance once he/she has learned how to operate the multimedia tools. Each multimedia Social Story™ can include information specific to the target skill or behaviour along with brief film or alternative visual footage matching the Social Story™ sentence on each page. There are some shortcomings with the use of

multimedia Social Stories™, however; for example, the requirement to have basic computer skills, such as using a mouse to move the cursor and click the play button to start the visual footage.

Sansosti and Powell-Smith (2008) reported that the use of PowerPoint™ presentations was useful for creating multi-media Social Stories™ that incorporated video modelling. This was attributed to the easy access to PowerPoint™ and the limited training that was required to use this software. Mancil, Haydon, and Whitby (2009) studied the difference between using a PowerPoint™ format and paper format using the topic of 'pushing among children during the transition to lunch as well as in between breaks' on three children of elementary school age with ASD. They found that the outcomes for the children were somewhat better for the PowerPoint™ format than for the paper format. That is, a marginally greater reduction in pushing behaviour was noticed after the use of the PowerPoint™ Social Story™. Furthermore, the participating teachers stated that it was easier to implement the PowerPoint™ format, and children showed a preference for the computer-assisted format. Nevertheless, the success of PowerPoint™ presentations depends on how the slides are constructed. The format of each slide must be carefully selected making sure that text is carefully distributed across multiple slides with adequate spacing between the sentences and picture symbols. The use of Board Maker® colour symbols by the Mayer-Johnson company (Sansosti & Powell-Smith, 2008) or photographs (Lord & McGee, 2001) have also been recommended to improve the appeal of the story. This could be attributed to the fact that these images have been broadly used in investigative and experimental settings and thus there is high familiarity of them (Samuels & Stansfield, 2012).

Furthermore, these tools are described as "a trusted tool for parents, teachers, and therapists to create symbol adapted accessible curriculum materials for students regardless of their abilities" (Mayer-Johnson, 2016a). Thus, it can be seen creators of Social Stories™ make use of resources familiar to them and the intended subjects. The BoardMaker® family of symbols is popular in the United States, hence it can be assumed that they are commonly used in educational settings by teachers. Similarly, it can be expected that teachers and other persons who create Social Stories™ will use images and symbols prevalent in their own countries when they create their own stories. Figure 3.1 below depicts a few BoardMaker® Classic Picture Communication Symbols (PCS):

Figure 3.1: BoardMaker™ Classic Picture Communication Symbols
(Mayer-Johnson, 2016b)

Video modelling involves using a video of a "model pupil or equivalent" engaging in the target behaviour (Charlop-Christy, Le, & Freeman, 2000). The video contains a Social Story™ that has been dramatised and acted out by a model in a similar age group. The model engages in the targeted behaviour in a way that is natural. The intention of the strategy is that the child can learn to memorise and replicate the behaviour by acting out what he/she sees on the video. Stokes and Baer (1977) believed that video modelling could help to enhance the efficiency of a prevailing treatment programme by providing a range of models and examples that could aid in the development of skills in children with ASD. Social Stories™ in paper format are restricted as they are usually limited to a single setting, but with video modelling the use of multiple settings is possible and this aids in the generalisation of skills across settings (Charlop-Christy et al., 2000). Gray (2000) also suggests recording Social Stories™™ on a CD or downloading on to a computer and then playing these for children who have difficulties with reading. It can be inferred that video modelling takes advantage of the fact that children do learn behaviour from watching peers and others, therefore this could be leveraged for children with ASD who can distinguish the difference between what they see on a screen and in real life. Figure 3.2: provides an image of a Social Story™ using video modelling.

Figure 3.3: Social Story™ using video modelling.
(autismclassroomresources.com, 2016)

Haggerty et al. (2005) combined the use of Social Stories™ with 'apron storytelling'. In this method, teachers first create the Social Story™ and then create an 'apron storyboard'. One version of an apron storyboard consists of a canvas apron worn by either the teacher or children (Haggerty, 2003). The apron covers the front chest area and contains a large pocket at the bottom. This pocket contains images or models of the characters and setting of the Social Story™ which are then recreated using hand or finger puppets, and/or laminated copies of the story's graphics. The laminated copies are attached to the apron with Velcro so that they can be manipulated throughout the story to reflect and interact with the storyline. Another version of the apron storyboard is a felt board with pictures from the Social Story™ stuck or pinned onto it (Haggerty et al., 2005). The child can then physically manoeuvre the characters in the story to act out the Social Story™ rather than reading it. This helps the child to visualise and hence perform the desired behaviour. Although apron storytelling is an approach used in general storytelling, presumably by teachers of younger students, it has the potential for success with individuals with ASD, since they usually lag behind their peers in terms of social development. Also, the participatory aspect in the technique may contribute to its popularity in general use, hence this popularity can be leveraged for their use with Social Stories™. Figure 3.3 below depicts an apron used in apron storytelling:

Figure 3.4: Apron storytelling

(Rakuten.com, 2016)

Constructed upon images rather than written text, Comic Strip Conversations (CSC), developed by Gray (1994), which are a variant of Social Stories™, can be utilised to debate and reassess replacements for a social condition. Like Social Stories™, Comic Strip Conversations are used to resolve difficult social situations. Rogers and Myles (2001) describe how the story, in a comic strip conversation, is drawn live in 'real time' during a discussion between child and teacher after a social situation has occurred. Simple figures and other comic strip symbols are used to depict the situation, facilitating discussion about the situation and identifying social cues that were overlooked during the interaction. Furthermore, CSCs are an active intervention. That is, the child is required to be involved in illustrating, writing, and composing the conversation for the comic strip; the content of the comic strip thus depends on the child involved in its creation (Vivian, Hutchins, & Prelock, 2012). Glaeser and colleagues (2003) provided guidelines for the creation of Comic Strip Conversations. Studies by Pierson and Glaeser (2007), Hutchins and Prelock (2006), Howell (2005), and Thiemann and Goldstein (2001) reported the successful use of CSCs with children with ASD. It can be surmised, therefore, that CSCs use a format that is familiar to individuals to ASD, as they would have encountered these in newspapers and magazines, so they could be more receptive to them. Also, the participatory aspect could make them more attractive. Figure 3.4 depicts some of the symbols used in comic strip conversation:
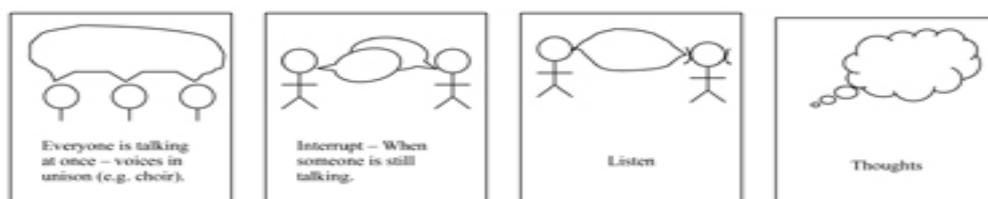
Figure 3.5: symbols used in comic strip conversations (NAS, 2016).

3.7.7 Cultural considerations and context of Social Stories™

The use of Social Stories™ can be dictated by its acceptance in a certain culture and/or religion. Awareness of and sensitivity to different cultural beliefs are hence required to ensure that appropriate interventions are applied. Culture can also be a barrier to the use of Social Stories™ because different cultures respond differently to the idea of seeking professional assistance for a child. Sometimes, such hesitation may lead to a delay in diagnosis, hence delaying the start of any interventions (Ennis-Cole et al., 2013).

The influence of language and civilisation on the interventions used for building communication skills in children with ASD has not been studied in sufficient depth (Bridges, 2004). Parents and children with ASD from various cultural backgrounds were observed by Wilder, Dyches, Obiakor, and Algozzine (2004) to have three key areas of concern: "they are culturally different, they may be linguistically different, and they have exceptionality that is loaded with behavioural repertoires" (p.105). In order to work effectively with the parents and guardians of children with ASD, it is essential for teachers and psychologists to interpret the influence of culture on education and communication (Wilder et al., 2004). Ku and Bryce (2011) draw attention to the fact that social ability is crucial in order to cope with everyday life. The social skills of children with ASD must, therefore, be improved to enhance their interactions with others with whom they come in contact, especially peers. Styles and methods of interaction and social support vary between cultures and environments; thus it can be inferred that culture will influence both the interventions chosen for children with ASD and more significantly, the caregivers' expectations of them. As one of the primary influencers in the early development of a child, teachers must also be involved in the choice of intervention. Furthermore, teachers may have their own understanding of what causes ASD and may be influenced by their own backgrounds (for example, religion, cultural and social norms, upbringing, community beliefs). These factors can further influence the mode of intervention, in this case, Social Stories™. This cultural issue is especially significant in cases of expatriate teachers in countries in Middle Eastern nations such as Saudi Arabia.

Social Stories™, as an intervention method, must also be employed with due consideration for the cultural ecosystem in which they will be implemented. To paraphrase Meng (2008), "Social Stories™ are culture-specific". In other words, Social Stories™ will

be effective only if the learner and the learner's contextual cultural aspects are taken into consideration. It can be inferred that culture will influence the way in which children with ASD learn (Griffin, Peters, & Smith, 2007). Since Social Stories™ can aid children with ASD by providing information about specific situations, cultural considerations are significant when developing a Social Story™. Customs vary across countries and often between regions and communities, as I have seen in different parts of Saudi Arabia, such as Jeddah and Riyadh. An author must therefore carefully check if a story conforms to the cultural context of the specific region or community the child with ASD belongs to. Failure to do so can cause the child to learn incorrect cues and thus continue to be socially impaired in the specific situation.

Social Stories™ depict a circumstance, proficiency or perception in a manner aimed to improve the social behaviours of children with ASD (Gray & Garand, 1993). The effect of the location's culture on the child and on the learning environment must be taken into consideration to ensure effective usage, however, since what is acceptable in one culture may be inappropriate in another (Meng, 2008). Cultures are distinct and the significance pressure and weighting each place on the different social traits, such as independence and conformity, can vary (Griffin et al., 2007). Western cultures, for example, are more likely to value autonomy (Mitchell, 2014) whereas Eastern cultures tend to value cohesiveness and tradition (Basu-Zharku, 2011). Furthermore, even in the same culture, different communities can vary in terms of what is acceptable (Parrish, & Linder-VanBerschot, 2010).

Vygotsky's (1978) sociocultural theory research indicates that social factors have a major role in the learning and social development of children. A child learns through its complex interactions with its parents and the society around him or her. It is essential that teachers understand the sociocultural background of a child (Colombo, 2005) to increase their empathy and their effectiveness in supporting the learning development of their students. This includes issues of selection of the appropriate Social Stories™ to use. It is also advised that Social Stories™ be shared with parents after they have been developed. Parents can thus play a part in their children's learning while also ensuring that the Social Stories™ are culturally appropriate.

As an example, consider teaching a child with ASD to greet other people. Greetings are culturally diverse, hence it would be necessary for the teacher to consider the child's

cultural background when developing a Social Story™ to model this behaviour. In the Arab world, for instance, greetings are very specific (as seen in Chapter 2). It would therefore be appropriate to create a customised Social Story™ for use with a child from an Arab culture rather than using a standard storyboard based on Western behavioural customs. Furthermore, children also receive instruction from their families as well as in school. Social Stories™ that conflict with the teaching received at home can lead to disorientation and undermine learning. Gray (2000) supports the idea that there is a need to match a Social Story™ to the cultural background of a child to achieve the anticipated outcome, demonstrating that primary research on Social Stories™ recognises the significance of culture in social skills interventions with children with ASD.

Studies have established that autistic children tend to use gestures or pointing as mechanisms to emphasise their intent (Murdick, Gartin, & Rao, 2004). This tendency helps children with ASD to initiate and understand conversations. When formulating Social Stories™ to be used in Saudi Arabia, the gestures used must therefore correspond to Saudi traditions. In other words, they must demonstrate the typical or day-to-day activities of the Saudi culture. If a child is to be taught how to greet an older family member, for example, then the Social Story™ should use a picture of a person greeting the elder by kissing him/her on the forehead. This will avoid confusing the child because he/she can relate to the picture. If a different picture is used, for example one showing a person greeting an elder by falling at his or her feet, as is done in some Eastern cultures, is used instead, it is possible that the child would be confused, thus rendering the Social Story™ ineffective.

The above argument can be extended to the dress code used in Social Story™ pictures. It has been noted that children with ASD often display problems with cognition (Baron-Cohen, Leslie & Frith, 1985), which means that they have a developmental issues in processing information or what can be termed as "detail-processing." In practice, this means they may not be able to think beyond the pictures in the Social Stories™, so careful consideration of the Saudi culture is required when using images. One such example is that unless they are related, women in Saudi Arabia are not supposed to touch food being served to men if they are dining together. A Social Story™ on "how to eat at a public dinner" therefore should not contain images of women touching food being served to men. If it does, the Social Story™ will fail to accurately educate the child on the protocol to be followed at a public dinner in Saudi Arabia.

Social Stories™ can not only help children with ASD in different social interactions, but also assist them in gaining knowledge about possible outcomes such as the responses of other participants in the situation and in comprehending processes (Ali & Frederickson, 2006). Social Stories™ will therefore help children, as members of Saudi society, to perform and understand the behaviours, roles, and norms that control their families, schools and society. The objective of the teacher in a classroom of children with ASD in Saudi Arabia is to use Social Stories™ to create behavioural change. That change can only be achieved by connecting the Social Stories™ to Saudi cultural and religious practices. Otherwise, it is likely that Social Stories™ would not be effective in facilitating culturally appropriate social behaviours among these children.

The next section will discuss criticism of Social Stories™ as a standalone intervention, specifically around the effectiveness of Social Stories™ in developing three specific social skills for children with ASD: greeting people at school, playing with friends, and talking with friends at snack break. I offer a separate section on this to provide the reader with an understanding of the effectiveness of earlier studies which used Social Stories™ to deal with the same social skills as the I addressed in this study.

3.7.8 Studies on the effectiveness of Social Stories™ in developing social skills (greeting people at school, playing with friends, and talking with friends at snack break) for children with ASD

Children with ASD may have difficulty in comprehending social situations and may not be able to demonstrate expected behaviours (NAS, 2016). Instead they may use unproductive methods to interact with others, as they are unaware of the appropriate behaviours or may not be able to differentiate between distinct situations, hence their struggle to choose an appropriate way of interacting. In this section, the effectiveness of Social Stories™™ in developing three specific social skills for children with ASD, namely greeting people at school, playing with friends, and talking with friends at snack break, will be discussed.

An intervention using Social Stories™™ and video modelling sequentially was undertaken by Kagohara et al. (2013) to help two children, both of whom were 10 years old and diagnosed with Asperger's syndrome and ADHD, to learn to greet staff in their school. Accordingly, a Social Story™ which explained the process of greeting teachers and other grown-ups at school was used with the children in a multi-baseline study design.

After the children had learned to use simple greetings (e.g., Hi), more complicated greetings were introduced to them through video modelling (e.g., Good morning Sir. How are you?). Kagohara et al., (2013) reported that the children had made favourable progress in greeting teachers and other grown-ups, but were found to be using the simple greeting more regularly than the complicated greetings. Their findings suggested that Social Stories™ and video modelling were somewhat successful in improving the greeting skills of the two children. It can be thus surmised that the effectiveness of Social Stories™ does vary based on the social skill being addressed. Furthermore, it appears that Social Stories™ are more effective with simpler social interactions, as evidenced in this case.

Another study by Reichow and Sabornie (2009) also dealt with the initiation of verbal greetings in the school environment. In their case, the subject in the study was an 11-year-old boy who had been diagnosed with high-functioning autism. The study used a withdrawal design with a comparison stipulation and assessed the frequency of suitable initiation of verbal greetings at five minute intervals. The Social Story™ used in the intervention was written in accordance with Gray's guidelines, but included pictures and was more than one page in length. The story presented and described verbal greetings to the participant, providing details such as when to greet someone, why greetings are used by people, appropriate terms to use in verbal greetings for grown-ups and peers, how to commence verbal greetings, and some of the outcomes that could be expected from the action of greeting someone. Furthermore, during the comparison condition, a visual cue card with a colour picture and accompanying text was used to prompt the boy. The evidence of the study proved that the boy improved in frequency of initiating verbal greetings and maintained these levels of behaviour after the intervention with the support of the visual cues. Questions arising from the study included whether Social Stories™ could be employed as the standalone element in an intervention and whether the Social Story™ functioned merely as a visual prompt.

Crozier and Tincani (2007) studied the impact of Social Stories™ on the prosaically conduct of three preschool children with ASD in an inclusive school setting. The three children were aged between three and five years and the behaviours to be addressed for each were playing with friends, sitting at circle time, and talking with friends at snack break. The Social Story™ for playing with friends provided models and modifications in suitable and unsuitable behaviour at play. These favourable outcomes were not maintained after the completion of the intervention, however. The Social Story™ for talking with

friends at snack break did not deliver favourable outcomes, but these were attributed to the child's inadequate interactive and societal capabilities and low motivation to interact socially with his peers. Overall, this study supported the findings of Scattone et al., (2002) that children do not necessarily have to read a Social Story™ unaided to develop their own modifications in behaviour. Although Social Stories™ had been in existence for more than 15 years at the time of that study, the likelihood of maintenance of behavioural change is still something that cannot be predicted at the start of a study.

3.8 Theoretical Framework

As stated previously, the current study proposes to evaluate the use and effectiveness of Social Stories™ in interventions for Saudi children with ASD. Having discussed the key concepts around ASD and Social Stories™, a significant next step is the construction of a theoretical framework within which this study will operate, in terms of the understanding of the usage and success of Social Stories™ in the Saudi Arabian context.

Children, whether in early or advanced stages of education, should be able to learn on a daily basis when they go to school. This development of learning is a complex process which draws on factors such as what they see, what they contemplate, and how they conduct themselves (Anning & Edwards, 1999). Learning itself is defined by Shuell (1986, p. 2) as "an enduring change in behaviour or in the capacity to behave in a given fashion, which results from practice or other forms of experience." This definition implies that learning "involves change", "endures over time", and "occurs through experience" (Schunk, 2012, p. 4).

Several theories have been proposed regarding learning with the objective of providing proven strategies for instruction and methods for expediting learning, as well as a basis for rational choice of instructional strategies (Ertmer & Newby, 2013). These include behaviourism, which associates learning with amendments in either the manner or occurrence of discernible conduct; cognitivism, which emphasises the analysis of the learning processes of children and deal with the questions of how the mind receives, organises, stores, and retrieves information, and constructivism, which associates learning with significance generated from experience (Ertmer & Newby, 2013).

A socio-constructivist or sociocultural approach to learning associates social communication and mental activity, stressing the significance of culture and setting as

significant variables in gaining an understanding what takes place around each human being (Vera & Holbrook, 1996). In other words, examining a learning situation from a sociocultural perspective not only observes children, also the complex scenario of interactive variables such as context, culture, background, parental capital, and so on, but also environmental factors and their impact on the children's learning.

The socio-constructivist perspective was influenced by the research of Vygostsky (1978) who comprehensively described the interaction of the personal and the social character of learning and the influence of traditional and social features on the process of making sense of the world. Since the outcomes of the current study are deeply influenced by the setting of the study in Saudi Arabia, I decided to employ a sociocultural framework for this study, particularly influenced by Vygotsky's work. The following section will examine the details of the sociocultural framework employed in this study.

3.8.1 The Sociocultural Theory.

The sociocultural theory of individual education (Vygotsky, 1981) denotes that education and progress takes place in two stages: firstly, at a societal stage, and subsequently on the personal level. Vygotsky perceived the development of learners as the conversion of mutual social encounters into adopted practices. Consequently, his theory emphasises the importance of the social setting and communications with other individuals (Rogoff & Morelli, 1989). Sociocultural approaches, in general, posit that individuals function in a societal setting where their activities and communications are displayed through the means of speech and other forms of expression (for example, illustrations or symbols) (John-Steiner & Mahn, 1996). Vygotsky (1978) contends that the advanced rational operations of human beings have to be considered in a social context before they are internally assimilated via reasoning and verbal expression. Lutz and Huitt (2004) discussed the principles underlying Vygotsky's theory and observed that the significance of social communication for intellectual growth is associated with what is being studied and the 'where' and the 'how' of the process of education. From the perspective of individuals with ASD, a sociocultural approach can facilitate the understanding of the various challenges they encounter with regard to "accomplishing perspective-taking in social interaction" (Ochs, et al., 2004, p. 148). As we have seen earlier, people with ASD may encounter challenges with turn-taking, social scenarios that involve others, and decoding the socio-cultural connotations of symbols, structures, and actions. Social

functioning for a person with ASD can therefore include socio-cultural knowledge that is distinct from mere communicative knowledge such as interpersonal skills (Ochs et al., 2004).

Vygotsky (1978) also believed in the existence of two degrees of cognitive performance: basic and advanced. The first deals with functions that require no learning (i.e. the capabilities that individuals are born with) or conscious thought and occur instinctively, such as feeling hungry or recognising someone. On the other hand, advanced cognitive performance consists of the formation and usage of individually-produced motivations such as recall, concentration, reasoning, and verbal communication (Galant, 1998). The evolution from basic to advanced cognitive performance is achieved through the use of cultural devices. Vygotsky's perspective is that humans create cultures by making use of devices and codes. Subsequently, culture (and society) determines what is beneficial to study and how it must be studied. In summary, Vygotsky believed that society is the chief influence behind intellectual growth. This is a shift from earlier theories, which argued that intellectual development equipped an individual to engage meaningfully with society. In its place, intellectual development is the personalisation of societal tasks and the translation of those tasks into cognitive performance (Driscoll, 2000). Persons with ASD, however, lack the intrinsic programming to recognise social cues. Consequently, the severity of their symptoms may influence the degree to which they can process the environmental input necessitated to stimulate 'typical' intellectual development. A person with ASD is more likely to develop an intellectual disability if they have multiple and acute social-communicative deficiencies (Vivanti, Barbaro, Hudry, Dissanayake, & Prior, 2013).

Vygotsky's sociocultural theory is therefore based on the premise that education and the construction of meaning are deeply affected by routine social interaction from early childhood and furthermore that social interaction is crucial for successful cognitive development. As observed by Vygotsky (1980, p. 86) "every function in the child's cultural development appears twice: first on the social level, and later, on the individual level; first between people (interpsychology), and then inside the child (intrapsychology). Vygotsky's research comprises three themes that endeavour to describe how a person is associated with their sociocultural setting and background, namely 'genetic method', 'the social origins of mental functioning in the individual', and 'mediation' (Wertsch, 1994). In other words, Vygotsky firstly called for an innate or evolving approach; secondly, he

considered that advanced intellectual processes originate from social processes, and thirdly, he maintained that intellectual process could only be comprehended if the tools and signs (semiotics) that mediate them were also understood (Otero, 2004). These themes encompass the association between social interaction and development, the means by which individual actions are formed and facilitated by semiotics, and how these are combined with developmental analysis (Wertsch, 1994).

Panofsky's study (2003) evaluated these themes as ways of facilitating a sociocultural structure, with respect to both social interaction and semiosis. These themes help to build Vygotsky's theory, referred to by Wang (2007) as "a learner-centred approach" that is comprised of "the roles that social relations, community, and culture play in cognition and learning" (Wang, 2007, p.8). It is evident that society plays a key role in children's learning. It could be thus assumed that any attempts to improve the learning abilities of a child with ASD should start with an improvement of their social skills.

A student's learning is moulded by what Vygotsky termed the Zone of Proximal Development (ZPD): "the distance between the actual developmental levels as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86). In other words, a child's capacity for learning is the difference between what they can accomplish unassisted compared to when provided with a teacher's input. This implies that the development of a child's intellect and skills must be a customised process, under which a teacher understands their skills and weaknesses in order to instruct and enable the child's development on both a social and personal level. This underlines the significance of teachers in aiding and sustaining the learning of children using a variety of tools for skills development.

Traditionally, psychology has recognised and investigated three elements of mind, namely 'cognition', 'affect', and 'conation' (Hilgard, 1980; Huitt, 1996; Tallon, 1997). The first, 'cognition' signifies the procedure associated with gaining awareness and comprehension; encoding, recognising, saving, managing, and recovering information. In general, it is related to the question of 'what' (e.g., what happened, what is taking place now, what does that information mean?). On the other hand, 'affect' indicates the emotional understanding of opinions, knowledge or information. In general, affect is related to the attachment of an individual (favourable or unfavourable) to persons, things, notions, etc., and is related

to the question "How do I feel about this knowledge or information?" The third element, 'conation' signifies the linkage of knowledge and affect to conduct and is related to the question of 'why'. Conation denotes the personal, planned, intentional, goal-oriented, deliberate, or striving element of motivation, the proactive (versus habitual or reactive) aspect of conduct (Baumeister, Bratslavsky, Muraven & Tice, 1998; Emmons, 1986). 'Conation' was defined by Atman (1987) as "vectored energy: i.e., personal energy that has both direction and magnitude" (p. 15). It is intimately related to the notions of intrinsic motivation, volition, agency (i.e., human action), self-regulation, and self-direction (Kane, 1985; Mischel, 1996).

I describe a few of these terms for greater clarity. 'Volition' has been described as the use of will or the freedom to make choices about what to do. It is believed to be a vital component of voluntary human conduct, without which human behaviour cannot be completely explained (Bandura, 1997; Hershberger, 1988). From the perspective of learning, Pintrich and Zusho (2002) defined self-regulated learning as "an active constructive process whereby learners set goals for their learning and monitor, regulate, and control their cognition, motivation, and behaviour, guided and constrained by their goals and the contextual features of the environment" (p. 64).

3.8.2 Linking ASD, Social Story™ use and sociocultural theory.

In general, social and human interaction is unpredictable. Children in different stages of development typically respond to the unpredictability and moderate their behaviour accordingly. Children with ASD, as described earlier, may encounter challenges in recognising changes in interaction, however; accordingly, they may be unable to appropriately and independently recognise how to behave in response. To reiterate briefly what has been explained earlier, individuals with ASD are characterised by impaired communication and social skills and repetitive, restrictive behaviours and interests (DSM-5, APA, 2013). The current study seeks to evaluate the usage and effectiveness of one specific form of social skills intervention for children with ASD, namely Social Stories™, in the context of the cultural environment of Saudi Arabia. Consequently, helping an autistic student to recognise social prompts and explore his/her own options to respond will cause improvements in his/her social skills, which ultimately is beneficial to both the children and the teacher. This manner of considering Social Stories™ is influenced by Vygotsky's sociocultural theory and his understanding of learning as a complex and

detailed longitudinal process of social interaction, collaboration and mediation (Charles & Boyle 2014). Vygotsky's (1978) research on the ZPD in particular can be linked to the use of Social Stories™ because their use is intended for children who have experienced difficulties with certain situations and the assistance of an adult enables them to comprehend the situation and reduce associated anxiety (Rota, 2011).

A factor associated with the success of behavioural interventions using Social Stories™, related to Vygotsky's philosophy as outlined above, could be the concept of 'theory of mind', which is how "knowledge guides prepositional attitude attribution and the explanation and prediction of behaviour by means of inner states and processes" (Garfield, Peterson, & Perry, 2001, pp. 495). This alludes to the specific internal conditions of the person, such as beliefs and learning, which permit them to correctly recognise the typical workings of other people's minds. Children with ASD who may not yet have sufficient depth of learning and social experience to have developed these are unable to comprehend the desires and convictions of others (Greenway, 2000). This is specifically reinforced by studies into how social skills, as well as discernment and evolution of language, develop the qualities of the theory of mind (Miller, 2006), as well as the abilities of the teacher in charge of the children's development (Liddle & Nettle, 2006).

If children with ASD, who frequently struggle with their verbal and social skills, are understood to demonstrate theory of mind impairments (Garfield et al., 2001), it can be suggested that children may not be able to successfully improve their theory of mind via social interaction alone (Hay, Payne, & Chadwick, 2004). Vygotsky's ZPD can therefore have some merits in comprehending theory of mind in children. In his opinion, it is essential to comprehend a child's progress in relation to their immediate sociocultural setting. Vygotsky states that the education of children is better facilitated if they are trained inside the ZPD, signifying that children may initially need assistance, but will gradually perform the activity without support. Children with ASD, therefore, can improve their theory of mind by acquiring additional abilities and increasing their comprehension of their immediate setting.

Vygotsky (1978, p. 34) states that "Children can imitate a variety of actions that go well beyond the limits of their own capabilities. Using imitation, children are capable of doing much more in collective activity or under the guidance of adults." The creation and use of Social Stories™ as a culturally-specific tool to assist children with ASD with

structured developmentally sound understanding their surroundings and learning to suitably acknowledge or respond to different social situations can help a teacher consciously bring the child to his/her ZPD; that is, help a child who has recognised that he/she has a problem with a certain kind of behaviour and offer him/her with opportunities to imitate the required behaviour (Rota, 2011). Social Stories™ help a child interact in a selected setting and further enable the child to assimilate the learning behaviour and assimilate it in to their own behavioural models. In this manner, Social Stories™ perform the role of a mediating device which is used to stimulate the behaviours required when communicating with fellow children and adults. Subsequently, the child can absorb the new skills and reduce his/her anxiety around different social situations in the classroom or school.

Thus, in conclusion, it can be observed that the sociocultural theory is significant to this study, along with the awareness that Social Stories™ are a strategy for behavioural intervention and that they may improve the skills of children with ASD with the guidance of teachers. Children with ASD can acquire a theory of mind through the acquisition of social and interactive abilities, but it is the responsibility of teachers to direct children through the ZPD.

3.9 Concluding remarks

This chapter has attempted to analyse the current literature associated with the definition, history, characteristics, and diagnosis of ASD. The issues that characterise ASD and providing details of the diagnostic criteria and the process of diagnosis in Saudi Arabia have been explored. Models or theories associated with ASD were also described. The importance of the acquisition of social skills by children with ASD and social skills interventions have also been described. In keeping with the objective of this study, Social Stories™ were also examined in detail as a social skills intervention for children with ASD.

The following specific aspects of Social Stories™ were discussed: features, development and use (including barriers, advantages and limitations, criticisms), sources, methods of incorporating in classrooms, cultural considerations and context, and their effectiveness in developing social skills for children with ASD. Furthermore, the theoretical framework of the study—a sociocultural framework influenced by Vygotsky—was touched on in this chapter. Vygotsky's sociocultural theory proposes that social interaction, mediation and collaboration immersed within a learner-centred school and societal culture is critical for individual development. Social Stories™, as an intervention for children with ASD, can be viewed as originating from this theory, as it assists children to understand their environment, provides guidance on how to conduct themselves in social interactions, and involves a high level of participation from the children. The next chapter will discuss the methodology employed for this study.

Chapter 4: Methodology

Introduction

The aim of this chapter is to describe the methodology applied in the current study. Accordingly, the theoretical foundations of the study are described, with an emphasis on the pragmatic paradigm. Subsequent sections describe the study design, supplying details of methodology employed and further provide the justification for using the mixed methods approach. The chapter also describes the approaches applied for data collection, including the development and management of the research tools (interviews and documentary data) throughout the course of the research. Also described are the forms of data analysis performed, the basis for sampling, the measures undertaken to ensure the quality and validity of the research, and the considerations related to access and ethics.

4.1 Research philosophy: pragmatic paradigm

In general, two definite paradigms, positivist and interpretivist, are the basis of research in the social sciences and education. These paradigms, in turn, form the basis for the selection and usage of quantitative and/or qualitative approaches in a study (Grix, 2010). The researcher, in the interpretivist paradigm, believes that the inquiry into certain events in the social sciences should be subjectively performed. Consequently, research using the interpretivist paradigm requires that participants share their experiences in great depth with the researcher. That is, the researcher must place emphasis not merely on the outlooks of the participants but also the environments fostering these outlooks with the intention of comprehending, explaining, and deciphering societal experiences (Cohen et al., 2007; Grix, 2010).

On the other hand, the use of methodological approaches originating from the natural sciences which utilise unbiased explorations of societal realities and events and the derivation in conclusion of "laws or law-like generalisations" (Cohen et al., 2011, p. 7) are features of the positivist paradigm. Accordingly, one of the chief criticisms of this paradigm (Cohen et al., 2011, p. 15) is:

> …that it regards human behaviour as passive, essentially determined and controlled, thereby ignoring intention, individualism and freedom.

Studies using the positivist paradigm typically use methods which include experimentation and the collection of measurable data. Moreover, the standard method used for the examination of findings is quantitative analysis. Other characteristics of positivist studies are the neutral or unbiased reporting of outcomes and the generalisation of the findings. Furthermore, such studies can be duplicated and the differentiation of variables (dependent and independent) may be involved (Bhattacherjee, 2012; Myers, 2013). In contrast, interpretive researchers are prejudiced (i.e., subjective) and their participation in and influence on the study is expected. Overall, interpretive studies utilise qualitative methods and instruments such as, interviews, case studies, observations, etc., where the emphasis is on contextual awareness (Adebesin, Kotzé, & Gelderblom; Bhattacherjee, 2011; Myers, 2013).

The positivist and interpretivist paradigms are integrated into a third paradigm, the pragmatic paradigm, with the resulting paradigm taking advantage of the attributes of both (Johnson & Onwuegbuzie, 2004; Teddlie & Tashakkori, 2009). The emphasis in pragmatic studies is the matter under consideration rather than methods and consequently all available approaches may be utilised to gain awareness of the matter (Creswell, 2014). Accordingly, it is contended that in pragmatic research:

> … decisions regarding the use of either *quantitative or qualitative* (or both) methods depend on the current statement of the research questions and the ongoing phase of the inductive-deductive research cycle (Teddlie & Tashakkori, 2009, p. 87) (additions by the researcher).

I recognised that pragmatism would be a suitable paradigm for application due primarily to its empirical and non-simplifying quality. Moreover, I understood that this paradigm would aid a researcher in gaining awareness of an event due to its use of the characteristics of both the paradigms that serve as its basis. In the context of the current study, this signifies my gaining awareness of the utilisation of Social Stories™ in schools in Saudi Arabia from the perspective of teachers and the manner in which teachers perceive the effectiveness of Social Stories™ with regard to the behaviour of students with autism. It could be seen, thus, that determining the research method to use in pragmatism ultimately depends on what is most suitable for the objectives of the research (Creswell, 2008). Therefore, I decided to use a mixed methods approach in my study.

As described in Chapter 2, the current scenario in Saudi Arabia is that children with special educational needs (SEN) such as ASD may be educated either in mainstream schools or in special education schools (Al-Mousa, 2010). Regular schools may make use of "self-contained classroom programmes, resource room programmes, itinerant teacher programmes, teacher-consultant programmes, and follow-up programmes" to provide special education services to those children with special education needs (Al-Mousa, 2010, p. 17). The schools in the study followed the approach of 'partial mainstreaming', which is achieved using self-contained classes; in other words, children with special needs receive instruction alongside non-SEN children in curricular and non-curricular activities. They receive special education in self-contained classrooms with special education teachers. Special education teachers are sometimes required to be present in mainstream classrooms, but this depends on the severity of the child's disability and the number of children with SEN in the class.

I selected the mixed methods approach for use in the current study as it appeared to be the most optimal and valuable means of collecting and analysing the depth and meaningfulness of the teachers' rich and insightful comments. It also enabled my own understanding of their perceptions with regards to the use and effectiveness of Social Stories™™ in Riyadh, Saudi Arabia. The following section offers the justification for adopting the qualitative method in the current study.

4.2 Mixed methods Approach

The significant proportion of educational research in Saudi Arabia with regard to interventions for ASD was found to be chiefly quantitative and based on the positivist paradigm. In other words, it could be seen that this area of research was characterised by a lack of mixed method studies, which proved to be a significant challenge in understanding the efficacy of interventions for students with ASD from the perspectives of practitioners in education, such as, teachers. To overcome this, I collected data for my study from various sources with the objective of providing deeper insights with regard to the utilisation and effectiveness of Social Stories™ by special education teachers working with students with ASD in mainstream boys' schools in Riyadh. It is generally accepted, in the social sciences, that a deeper awareness of a research problem is offered by qualitative data whereas quantitative data offers a more high-level awareness of the problem. Qualitative awareness originates from investigating a single or a few persons

and deeply scrutinising their outlooks. On the other hand, quantitative awareness arises from scrutinising a sizeable number of people and evaluating definite and restricted variables. Although it may appear that qualitative and quantitative methods offer varying perspectives, both methods balance each other and direct attention to all-embracing information that is reliable and accurate, placing emphasis on both particulars and indicators (Driscoll, Appiah-Yeboah, Salib, & Rupert, 2007). The scrutiny of the conduct of humans from more than one standpoint offers greater legitimacy to the research along with offering a more comprehensive depiction of human conduct and know-how (Mertens, 1998). In this manner, the quasi-experimental design supplements the case studies in the present study by providing clarifications for the study's statistical findings, thus making it more conclusive in contrast to the use of only a single method (De Lisle, 2011).

The intention of using both quantitative and qualitative research methods to generate greatly diverse data is to enhance the effectiveness of the analysis and to increase its trustworthiness (Mason, 1994). In the current study, the use of the mixed methods approach aided me in evaluating the research questions, while contemplating them from diverse points of view. Sandelowski (2003) drew attention to the two chief benefits of a mixed methods approach. First, it permits the researcher to obtain exhaustive insights into the research phenomenon under consideration. Second, it facilitates the verification of data by contrasting the outcomes of one approach against the other. Moreover, this form of research design offers the researcher increased certainty if there is correspondence between the outcomes of the qualitative and quantitative methods. For instance, if the outcomes of interviews are consistent with the processes utilised in the investigational design, the results of such research are substantiated (Robson, 2002).

Nevertheless, it must be noted that the mixed methods approach is not without drawbacks. Just as it combines the strengths of the two methods, it is also accompanied by the shortcomings of both, particularly those that are not eliminated by blending the two. For example, data may not inevitably be associated with diverse paradigms and philosophies, where the study is offered diverse emphases by the methods (Bazely, 2004). It is evident therefore that this method cannot be employed in all forms of educational research. Instead, certain aspects require to be established for this method to be appropriate. Consequently, it is only relevant in certain circumstances. Personally, I believe that data

analysis is the toughest facet of employing mixed models. The toughest activity is deriving assumptions obtained from both methodologies. The analysis of numerical data and spoken answers could extend in different directions. For instance, they could either converge or be divergent. However, I still decided to proceed with the mixed model approach to assess the effectiveness of Social Stories™. It must be noted at this juncture that the quasi-experimental design was accomplished by means of a moderately-sized study. Consequently, I was able to obtain in-depth analysis, by undertaking a case study. Also, I could determine whether the individual versions I obtained from the teachers agreed with the methods utilised in the experimental design.

However, while the experimental methodology would facilitate the resolution of the research questions (Draper, 2004), the intervention was designed and formulated for the objective of research (Rothman & Thomas, 1994). Keeping this in mind, it is evident that detailed information is necessitated to offer a distinct image of a new programme's validity. The gathering of qualitative data would offer descriptive insights into the social capabilities and competencies of the children with ASD along with their strong points and shortcomings (Kirby, Dickie, & Baranek, 2015). In turn, this would reinforce other studies when designing an intervention and also provide distinct information with regard to the manner of novel emotional awareness capabilities gained, and consequently the facets of social communication developed. On the other hand, a need for quantitative data was recognised to offer a precise measure (LaVela & Gallan, 2014) of these capabilities and a distinct evaluation of the pre- and post-intervention programmes. In general, no distinct approach to research can be regarded as the most suitable, as each approach achieves its own particular objectives, and each has its own strengths and shortcomings (Yeasmin & Rahman, 2012). Thus, examining the different methodologies utilised in educational research is necessitated, establishing that each methodology has its own role, strong points, and shortcomings that distinguishes it from other methodologies. I anticipated that this methodological approach would be employed to direct the questions that arose during the study and would be used through all the different methodological stages, including the gathering, studying and interpreting of data. Research design will be examined in next section.

4.3 Research Design

The design of a study refers to the means of structuring the research, its aims, the plan, and appropriate methods to be adopted in order to achieve those aims, and also to clarify the chief components of the study, which are associated with one another. A multi-design approach was applied, comprising exploratory individual interviews and a quasi-experimental design by using three case studies, with the latter including interviews and documentary reviews. The following sections describe the stages of the study.

4.3.1 Stage 1: exploratory (interviews).

The first stage of the current study was exploratory, involving the use of interviews as the mode of data collection. Interviews were carried out with fifteen special needs teachers of children with ASD to gain insights into their perceptions and their knowledge concerning the use of Social Stories™ with these children. As established in the Literature Review, studies concerning the use of Social Stories™ in general—and with children with ASD in particular—in the context of Saudi Arabia are limited. Obtaining the insights of teachers in Saudi Arabia regarding their use of Social Stories™ was, consequently, deemed critical. Stage 1 facilitated my own preliminary understanding of what teachers knew or thought about the use of Social Stories™.

The objective throughout this stage was to gather information to answer research questions 2 and 3. I had been developing the research questions over a period of several months through the use of related literature, and subsequently sought to empirically evaluate, with this representative sample of teachers, whether the questions were able to obtain the type and depth of information necessary to create a set of data from which the research could progress. Another objective was centred on recognising themes relating to the use of Social Stories™ for children with ASD. I made the decision to initiate the study with semi-structured interviews, which offered the opportunity to widen the discussion with participants, and thereby reveal insightful information based on the range and depth of the interviewees' responses. This format also provided interviewees with the opportunity to seek explanations and for me to supply information, as and when required, concerning the topic of research or my questions (Cohen et al., 2007).

An interviews approach was used to gather data throughout stage 1 in the current study. The following section describes this method of data collection employed.

4.3.1.1 Interviews.

Researchers utilise interviews as a flexible one-to-one method to gather more in-depth knowledge from participants by asking prepared or tangential questions. Interviews are useful for a variety of reasons; they are adaptable and allow researchers to understand the participants' perspectives (Rubin & Rubin, 2012). They also emphasise the necessity of focusing on respondents' stories, which could supply the answers that researchers are looking for (Rubin & Rubin, 2012).

Interviews should always be used as a sensitive mode of data collection that can aid in the discovery of individual and contextual perceptions and differences. In the context of interviews, standardising refers to phrasing the questions in the same way for each respondent. Similarly, scheduling refers to posing the questions in the same order. I chose semi-structured interviews as the mode of interviews for the current study; a semi-structured interview is an interview that is loosely structured and includes open-ended questions. A researcher uses these to acquire a deeper and more complete understanding of a subject. Semi-structured interviews are flexible; they are not rigidly 'scheduled' or 'standardised', thus allowing for comprehensive data acquisition. The interviewer can concentrate on a set of topics or subjects that have been planned for exploration from the perspective of the study (Phellas, Bloch & Seale, 2012). The suitability of semi-structured interviews for small-scale studies was another reason for their selection (Drever, 1995). These interviews, however, have their own limitations, such as the reduced capacity to exactly replicate a focused interview as different questions may be posed to different interviewees and could influence the depth and quality of responses. I controlled this issue during the interviews by making use of a reminder sheet containing key questions to be asked, whilst providing sufficient flexibility to add questions based on the responses from the interviewees. I also took into consideration the fact that it is difficult to claim generalisability of the responses in semi-structured interviews in qualitative studies owing to the small number of participants (Bryman, 2008).

Although interviews can be conducted in different ways (for instance: remotely via telephone, face-to-face or Skype), in different settings, and with the use of different tools to log the conversation (Hancock, Windridge & Ockleford, 2009), face-to-face interviews were applied, with the physical presence of both interviewer and interviewee in the natural setting of the participants, i.e. in their schools. A digital recorder was used to record the

conversations so that these could be available for further review or analysis as required.

In the current study, the interview questions were based on the following: teachers' understanding of the concept of Social Stories™; the range of sources from where teachers obtained Social Stories™ for use; teachers' opinions on the use of Social Stories™ as a social skills intervention tool; the different methods teachers employed to incorporate Social Stories™ in their classrooms; teachers' observations regarding the benefits and drawbacks of Social Stories™; the types of barriers teachers encountered during the use of Social Stories™; teachers' views on the cultural consideration and context of Social Stories™; and teachers' opinions concerning factors that could contribute to the best use of Social Stories™ for the improvement of social skills in children with ASD.

I developed the interview questions based on the information I had gathered from my study of the previously published literature concerning the use of Social Stories™ for children with ASD. The literature review provided a deeper understanding of the different factors to be taken into account when using of Social Stories™, such as practical approaches to using Social Stories™ and other considerations that affect the usage of them (Adams et al., 2004; Agosta et al., 2004; Ali & Frederickson, 2006; Barry & Burlew, 2004). I also developed questions referencing the cultural perspective from my knowledge of the cultural and religious context and environment of Saudi Arabia. Reference material was not available for this, as this study is anticipated to be the first to consider the cultural environment in which an intervention is employed for a child with ASD. At this stage, it is important to highlight that the participants for Stage 1 were from two mainstream boys' schools that provide facilities for children with special educational needs in Riyadh, the capital city of Saudi Arabia.

I needed more than five weeks to complete the entire course of interviews for the study, not including the time taken to obtain approval and subsequently establish contact with the schools and teachers. Prior to starting the interviews, I provided the participants with a detailed explanation of the purpose of the research, and further reassured them that the data gathered throughout the interviews would be stored digitally and utilised exclusively in academic studies; this gave them confidence in matters of public anonymity, ethical protocols, adherence to discretion, impartiality, and other ethical considerations (British Educational Research Association (BERA), 2011).

Semi-structured interviews provide a vital means of developing conversations founded on trust, which is critical in a Middle Eastern society that is based on intimate associations and conservative customs and therefore integral to my study. It was very important to gain acceptance from potential interviewees and to establish their willingness to participate in the lengthy data collection procedure. I made efforts to develop a personal connection with each participant to improve the value of the interviews.

Each interview's duration was approximately 40–55 minutes, and was carried out in Arabic to prevent any issues stemming from translation. The interviews were recorded after obtaining the participants' permission.

4.3.1.2 Pilot interviews

Prior to proceeding with the main study, a pilot study was carried out to discover any practical difficulties (such as the time spent on the interview, problems with operating the digital recorder, and so on) and to assess the strength and effectiveness of the interview questions (Cohen et al., 2007). The sample population for the pilot study was comprised of five teachers of children with ASD from one of the chosen schools. Each teacher was interviewed in a suitable location and at a convenient time.

My findings from the pilot interviews suggested that the interview questions required modification to enable the participants to understand the focus, specific relevance and intention of the interview. Subsequently, I made some edits; ambiguous or unclear questions were reworded or deleted. If a question was reworded, it was to aid understanding while ensuring that accuracy was maintained with regards to cultural and linguistic aspects. Moreover, I arranged for a review board to assess the soundness of the content of the interview questions. This board comprised scholars who were experts in ASD and some who were specialists in assessment and study design. They helped evaluate whether the interview elements dealt with the various aspects under investigation. I also requested direction with regards the phrasing and suitability of the interview questions from the review board; this meant that amendments were made concerning the elaboration of certain questions, as well as some phrasing modifications.

The pilot interviews also improved my familiarity with the environment of mainstream schools in Saudi Arabia. I felt more assured and encouraged, as I was made to feel welcome in the school environment. The pilot interviews enabled me to assess my own

interviewing capabilities and further afforded me the enthusiasm and positive impetus necessary to proceed with the main study. They also offered initial awareness concerning the setting for the interviews (for example, location, timing, ambience, etc.).

4.3.1.3 Piloting the Guidelines for the Creation of Social Stories™ in the Saudi Arabian Context

Additionally, the pilot interviews aided me in preparing a draft of the guiding principles that could be utilised to develop a Social Story™ in the specific cultural environment of Saudi Arabia (Please refer to Section 7.5 for the final guidelines). The objective of the guidelines was to aid teachers and other stakeholders (e.g., parents, caregivers, etc.) in the education of children with ASD to develop Social Stories™ that would be appropriate for use in Saudi Arabia. That is, they would take the social and cultural features of the environment into consideration apart from being individualised to the needs of a specific child with ASD. Geusens et al. (2006) advise that guidelines must be piloted among target users and also be reviewed by experts external to the study. Furthermore, where appropriate, the potential organizational barriers for implementation of the guidelines must be scrutinised. Accordingly, I decided to pilot the guidelines with the persons for whom they were designed.

I sent copies of the draft guidelines to the five teachers of children with ASD who had participated in the pilot interviews along with copies of the two checklists created by this study to assess the content and context of the Social Stories™ (Please see 4.4.2.1 Evaluation of the Content and Context of Social Stories™ for more details). I also asked the teachers for their forthright opinion on the feasibility of the use of such guidelines in Saudi Arabia where the Ministry of Education has oversight over all matters associated with the education of all children, with special needs or otherwise.

Additionally, I sent the guidelines to two of my countrymen who were pursuing PhD studies related to interventions for children with ASD for their subjective opinion with regard to readability and intelligibility of the guidelines. In my opinion, their opinion would serve as the external expert evaluation of the guidelines due to their specialised knowledge in the field. Again, I asked my colleagues for their opinion on the feasibility of the use of such guidelines in Saudi Arabia.

As with the pilot interviews, the results of piloting the guidelines helped me to recognise inadequacies regarding the language and structure of the guidelines and also the sequencing of the activities mentioned in the guidelines. Specifically, the feedback from the five teachers provided insights regarding the manner of editing required. Accordingly, I edited the language and structure of the guidelines and also removed some of the items as per the received feedback, so as to increase the clarity of the guidelines and to remove ambiguous or indistinct language. Moreover, some of the content which was deemed infeasible for implementation in the educational environment of Saudi Arabia was removed from the guidelines and I used these later in my recommendations for the Ministry of Education.

4.3.1.4 Interview Sampling

The sampling techniques commonly used in qualitative studies are: convenience, purposive, theoretical and snowballing (Cohen et al., 2007; Creswell, 2003; Teddlie & Yu, 2007). I chose the purposive sampling method to gather information for the interviews, following careful consideration of the background of the study. 'Purposeful sampling' identifies participants who are 'information-rich'; that is, participants who can supply information that will be compatible with the context of the study (Patton, 2002).

I obtained the details of 20 teachers working with children with ASD in two mainstream boys' schools in Riyadh through the Ministry of Education (MoE) in Saudi Arabia (more details can be found in Section 4.10: Access and Ethical Considerations). I then wrote to these schools, enclosing a copy of the letter of permission from the Riyadh local education authority (LEA) to conduct these interviews, and received 15 acceptances. The chief criterion for selecting teachers was relevant teaching experience. Only those with at least two years' experience in teaching children with ASD were considered for selection. The underlying principle behind choosing a purposive sample was so the ability to assess and consciously select applicants or contributors with the necessary information and the willingness to take part in the research. This means that I sought teachers who were working with children with ASD and had been using Social Stories™ to deal with their students' deficits in social skills to participate in the study. Furthermore, teachers' experiences and training also were considered as these are factors that make their contributions to the study. I also controlled for and examined the range of pedagogical and socio-cultural understanding, experience, and training of the sample of teachers. It

must be noted that teachers' knowledge of interventions for children with ASD in educational settings in Saudi Arabia is usually minimal, even in special school situations; this could reflect unfavourably on the quality of data collected from the teachers as their individual experience and knowledge could influence their contributions to the study.

Once the teachers' participation had been confirmed, I contacted them to mutually agree on a time for the face-to-face interviews. I confirmed their anonymity, their right to withdraw from the project, reassured them for the secure storage of the collected data and agreed on informed consent. Each participant was informed that the interviews would not take more than 45 minutes of their time, and that they would receive an email transcript of the entire interview. Participants could review the accuracy of the transcript, the content, narrative and analysis of the interview, and provide their feedback concerning any corrections or including additional comments.

Sampling in qualitative research normally requires an adaptable and logical approach in practice. More significantly, it offers a logical method of selecting a suitably sized sample to deal with the questions of the present research. Consequently, I needed to find participants who were willing to take part in exhaustive interviews. Table 4.1 provides details of the 15 interviewees.

Table 4.1: Details of the 15 interviewees

Code	Qualification	Experience with teaching children with ASD	Experience with using Social Stories™	Age in years
T1	BA in SEN	8 Years	4 Years	32
T2	MA in SEN	11 Years	5 Years	36
T3	MA in SEN	10 Years	5 Years	35
T4	BA in SEN	9 Years	4 Years	34
T5	MA in SEN	12 Years	6 Years	38
T6	MA in SEN	11 Years	4 Years	36
T7	BA in SEN	9 Years	5 Years	35

Code	Qualification	Experience with teaching children with ASD	Experience with using Social Stories™	Age in years
T8	BA in SEN	10 Years	5 Years	35
T9	BA in SEN	8 Years	4 Years	33
T10	BA in SEN	11 Years	5 Years	35
T11	BA in SEN	9 Years	4 Years	36
T12	MA in SEN	13 Years	6 Years	40
T13	BA in SEN	3 Years	2 Years	27
T14	BA in SEN	9 Years	5 Years	35
T15	MA in SEN	10 Years	4 Years	36

The central data in the current study was collated from the interviews with the fifteen participating teachers, and three case studies dealing with the use of three Social Stories™ with three children with ASD. The rationale for using the case studies was to understand teachers' perceptions of the effectiveness of Social Stories™ for children with ASD. These would provide a better means of investigating children's social skills development.

4.3.2 Stage 2: The quasi-experimental design

A quasi-experimental design has been found to be the most suitable approach for a study investigating the effect of an intervention programme on a set of children with ASD. In general, situations where random assignment is not feasible for the objectives of the research are those where quasi-experimental design is suitable (Coolican, 2014). This manner of design profits from the usage of a control group in which the assigning of the sample is controlled by the researcher to two conditions. That is, either the experimental or control condition based on the researcher's stated criteria (Robson, 2002). Quantitative methods are utilised to assess the variation in the dependent variable and to contrast the data between the experimental and control groups. Researchers are permitted, by quantitative methods, to offer assessments for the overall population in education, where it is possible to consider all the elements that influence a particular facet of education,

and still predict its spread in the population (Coolican, 2014). The explanation of the "real case" employing already existing data can be achieved by the utilisation of experimental methods in social research (Robson, 2002). Fischer (1995) described empirical evaluation as "the form of evaluation that seeks to determine the degree to which a specific programme or policy empirically fulfils or does not fulfil a particular standard or norm" (p. 241-242). This manner of research design is accompanied by various benefits, such as the replication of studies using this design can be facilitated by the meticulous maintenance of records of the measurement practices. It must be noted that the ability to imitate a study is a feature of scientific research. Moreover, the comparison of the outcomes of a quantitative study with the outcomes of similar studies, in extant literature, can be achieved in a more straightforward fashion. Additionally, the assessing of hypotheses is possible in quantitative research. Furthermore, the description of outcomes can performed in a straightforward and accurate manner, and the computation of standard measures of central tendency (i.e., mean, median, and mode) is also facilitated by the usage of quantitative evaluations. Also, researchers can avoid personal bias by disassociating themselves from the participants and by utilising unfamiliar subjects at all times (Cohen et al, 2011; Coolican, 2014; Robson, 2002).

It can be seen from the preceding arguments, that occurrences in the social universe are regarded by quantitative approaches as truths that can be verified by the gathering of numerical information, or by converting perceived data into numerical format and utilising these as a pattern of the remaining population. Thus, this method offers possibilities for the examination of most phenomena. Nevertheless, it must be noted that not all phenomena can be suitable investigated by the usage of quantitative measures. For example, some issues necessitate comprehensive analysis using approaches such as, interviews and case studies. In such instances, the most appropriate approaches to scrutinise these forms of data are qualitative.

In the real world, experimental research encounters several unfavourable viewpoints that detrimentally influence the research. For example, an artificial setting is involved in experimental control. This degree of control at times cannot be attempted in reality and hence varying outcomes may be obtained when utilised (Robson, 2002). The manner of obtaining data is predetermined by approaches such as questionnaires. These methods, however, do not expose the true feelings of participants with regard to what is being investigated at all times. Instead, participants may just submit the nearest response

provided by the tool (Robson, 2002). Consequently, the outcomes are restricted, as quantitative data do not offer detailed insights into the phenomenon under consideration. Moreover, the lack of randomisation is a significant shortcoming in quasi-experimental research. This aspect could influence the internal validity and also cause any deliberate modifications to be susceptible to other intervention elements. A challenge in the present study is the determining of the fundamental association between variables. The objective of employing quantitative methods in the present quasi-experimental study is to evaluate the quantitative variations in the behaviour of the students with ASD. The instruments for measurement provide reports that vary numerically. The change, if any, in these numbers between the pre- and post-intervention phases is used to indicate the changes related to the intervention. The most appropriate method to assess a supposition that social skills could be improved by an intervention program is the use of such a method.

My justification for using quasi-experimental design relates to the pedagogical practice being studied, which is the use of Social Stories™ in mainstream school settings. The impact or effect of the use of Social Stories™ could not be assessed without context, namely the use of Social Stories™ in a school setting and more specifically within the cultural framework of Saudi Arabia. As described in Chapter 2, society in Saudi Arabia is conservative and traditional and is strictly bound by religious guidelines. Regulations governing every aspect of existence, such as food, clothing, interactions between sexes, and so on, are rigidly enforced. Consequently, evaluating the effectiveness of the use of Social Stories™ in schools in Saudi Arabia requires careful consideration of these social and cultural factors. Furthermore, it must be noted that I had neither intention nor means of influencing the behaviour of the study participants, namely teachers and their students with ASD.

Although 15 teachers participated in Stage 1 of the research, the number Social Story™ interventions explored in quasi-experimental design stage reduced to three. Although it might appear that this was an abrupt and severe reduction in the number of participants, I had anticipated the situation and in fact preferred it because fewer cases mean more opportunity to analyse each case in greater depth. Too many cases can also affect the structure and length of the final report. 10 of the 15 teachers cited a lack of time to participate in the case study and a further two had ceased to use Social Stories™ with children with ASD in their classroom. Had the number been reduced to fewer than three

participants, I would have approached the schools again or contacted other schools; however, this need did not arise. The remaining three teachers helped to identify three children with ASD aged 6–12 years who had been experiencing difficulties with different forms of behaviour typically displayed in a classroom or school setting and provided three Social Stories™ that could be used with them, each dealing with a specific target behaviour. As described in the literature review, children with ASD can have a variety of impairments, such as limited speech or being exceedingly verbal, whilst struggling with the rules of conversation, not taking turns or noticing their peers' emotions and adjusting accordingly, needing to be rigid or stay in familiar contexts, and so on. I allowed the teachers to guide me regarding the choice of children and Social Story™ to be used for each child. The three Social Stories™ chosen were *Playing with friends*, *How to greet someone at school* and *Talking with friends at snack time*.

Though a very small number of cases in quasi-experimental design were explored in this study, research justifies that a limited number of case studies (even a single case study) can be beneficial if the objective is to assess specific forms of hypothetical proposals (Levy, 2008). My objective during the case study component was to observe how teachers used Social Stories™, and to examine their perceptions with regards the overall effectiveness of the selected Social Stories™ in improving the social behaviour of children with ASD in different settings in school. Consequently, I determined beforehand the form(s) of proof that would lead me to accept or reject the perceptions of the teachers. I decided to use the data collection forms provided by the schools to collect data concerning the children's responsiveness or lack of response to the Social Stories™. The data collected was to be analysed to establish the success or failure of the Social Story™. More details relating to the evaluation of the content and context of the Social Stories™ and their effectiveness are provided in Chapter 6 (Findings).

Another consideration that led me to proceed with just three case studies was the limited amount of time I was permitted to spend in the schools, as I was not permitted to disturb the regular schedules of the children or the teachers.

The next section discusses documentary data as the first approach used for data collection in stage 2 (quasi-experimental design).

4.3.2.1 Documentary data

Several documentary sources of data may be available to a researcher. Although these may be beneficial to the researcher, several factors must be taken into consideration when determining if and how to use them (Cohen et al., 2007). Furthermore, the availability of documentation may vary across countries and cultures. Some documents are consciously prepared for research, whereas others are not; however, irrespective of their source, author, audience or purpose, supporting documents can help a researcher to discover more information about the event being studied. Nevertheless, documents cannot be used independently to provide data; rather, they must be used in combination with several other concurrent elements (Prior, 2003).

In the current study, I performed a documentary analysis of the three Social Stories™ identified by the teachers for use with their children with ASD. The analysis of the written documents involved an evaluation of the content and context of the Social Stories™ and their effectiveness. The purpose of this analysis was to help me assess whether the Social Stories™ themselves had a role to play in the teachers' perceptions and in the improvement in children's behaviours.

4.3.2.1.1 Evaluation of the Content and Context of Social Stories™

I evaluated the three Social Stories™ identified for the study by using the Social Story™ checklist created by Gray (2004), and a cultural evaluation checklist I devised for this purpose. Additionally, I visually assessed each picture used in the stories. I also evaluated the sentences accompanying the pictures for appropriateness from overall and ethical standpoints.

Gray listed certain guidelines (Social Stories™ 10.0) that have become the essential features (standards) of Social Stories™ (Gray, 2004). Successive amendments and re-ordering gave rise to Social Stories™ 10.1 (Gray, 2010) and Social Stories™ 10.2 (Gray, 2014). Since their inception, however, the basic standards governing Social Stories™ have remained constant. I decided to use the 2004 guidelines as they offered themselves more readily for adaptation and expansion, as required by the current study (see Appendix A for Gray's (2004) Social Story™ checklist). I have endeavoured to label each item on the checklist by the element or parameter it attempts to assess ('content', 'structure', 'presentation' and 'context').

My knowledge of Saudi Arabia enabled me to realise that applying only a general checklist would not serve the purpose of assessing a Social Story™ for use in my country. Consequently, I developed a checklist to assess Social Stories™ from the Saudi cultural perspective. I created the checklist by extending items 3, 8 and 9 of Gray's checklist to include cultural viewpoints. This cultural checklist assesses whether the Social Story™ provides answers to the relevant 'wh-' questions, matches the ability and interests of the pupil, is literally accurate, and, where applicable, uses judiciously chosen pictures that are relevant for the child and further augment the meaning of the text from a cultural standpoint. This checklist can also apply cultural insights appropriately and ensure the readiness of a Social Story™ for use in the Saudi environment (see Appendix B for the cultural evaluation checklist).

Prior to its application in the study, I sent the cultural evaluation checklist for review to a specialist in Culture Studies at King Saud University in Riyadh to ensure that it was culturally appropriate in the context of Saudi Arabian society. The feedback received from the specialist reassured me that all likely cultural aspects were taken into consideration, and that the checklist could be used to assess Social Stories™ for their cultural appropriateness prior to being used with a Saudi child with ASD. It must be noted here that this checklist can be modified as appropriate for use in other Arabic cultural contexts.

The third form of evaluation, the visual analysis of the Social Stories™, was carried out in two steps. In the first one, I evaluated each visual used in the stories from a generic and cultural perspective. In addition, I also assessed the type of each accompanying sentence as provided in item 6 on Gray's checklist to evaluate if the story contained a suitable mixture of relevant and/or appropriate sentence types; that is, descriptive, perspective, cooperative, directive, affirmative, and control statements. In the second step, I analysed the graph created from the data collected during the intervention with each child. This analysis was to facilitate my understanding of how the patterns of data compared before and after the interventions (Engel & Schutt, 2012).

4.3.2.1.2 Evaluation of the effectiveness of Social Stories™

Following the evaluation of the content and context of the Social Stories™, I observed their use in social skills interventions. As described earlier, the subjects chosen were three children with varying levels of ASD, and the social skills to be addressed were '*Playing*

with friends', '*How to greet someone at school*', and '*Talking with friends at snack time*'. I then assessed the effectiveness of each intervention from the teachers' perspectives. My rationale for utilising these assessments was centred on understanding how teachers perceived the effectiveness of Social Stories™™ for children with ASD. This in turn would offer insights to support the recommendation of alternative methods to examine the social skills development of children with ASD.

The case studies employed a single-subject design. In other words, the focus of each case study was a Social Story™ intervention for a single child with ASD. This design was chosen as it is based on the idea that in a successful intervention, change in status (in the current context this means the child's behaviour) would be evident (Engel & Schutt, 2012). In the context of the current study, this implies that the child's behaviour during and after the intervention can be expected to differ from their behaviour before the start of the intervention.

There are at least three elements in the single-subject design: baseline and intervention or treatment phases, and recurring capturing of data. Moreover, the data captured can be analysed and represented as graphs. 'Baseline phase refers' to a period of observation before an intervention is employed. Data is continuously captured, however. 'Treatment phase' refers to the period of observation while the intervention is taking place. Data is continuously captured in this phase as well (Engel & Schutt, 2012).

The baseline phase is typically represented by the letter A. The letter B is used to represent the intervention phase. The most basic single-subject design is the A-B design, which includes a baseline phase and an intervention phase. Another form of the single-subject design is the withdrawal design, either the A-B-A design or the A-B-A-B design. In these designs, the intervention is completed (A-B-A design) or is paused for an interval before being resumed (A-B-A-B design) (Kuttler et al.1998).

Teachers chose to use the A-B-A design as they wanted to include a follow-up phase that also included repeated measurement. They believed that this design would help answer the question "Does the effect of the intervention persist beyond the period in which treatment is provided?" (Engel & Schutt, 2012, p. 212).

The general data collection procedure I used in the case study stage involved the manual collection and recording of data on a sheet obtained from the teachers. The data collected

included the child's name, definition of the target behaviour, instances of compliance or non-compliance to the target behaviours (date, behaviour, frequency, or duration, and the phase of study, whether baseline, intervention, or post-intervention). A data collection sheet can be found in Appendix C. Teachers then saved the data to the child's records after it had been analysed and graphically represented using Microsoft Excel 2010. The data collection sheets were provided by the school and had been prepared by the school's head teacher. The behaviour descriptions included in the data sheet were "Appropriate", "Inappropriate", and "No Interaction". Teacher used event recordings to measure the target behaviours. An 'occurrence' is defined as one event of a certain type of behaviour during the observation sessions.

4.3.2.1.3 Quantitative data

The data pertaining to the observations of the students' behaviour was recorded using Microsoft Excel. Graphs were then created to visually scrutinise the modifications in behaviour, if any, over time. Several scholars (e.g., Kazdin, 1981; Parsonson & Baer, 1992) have suggested the visual scrutiny of data in single case studies. Moreover, it has been submitted that visual scrutiny not only forestalls an overly precise analysis of treatment effects but also facilitates the visual recognition of clinically important effects (Brossart, Parker, Olson, & Mahadevan, 2006; Parsonson & Baer, 1992). Additional statistical analysis was also contemplated considering the comparatively new advances in this matter for single case design research. Nevertheless, the findings of numerous articles which compared the statistical analysis of different single case designs revealed that varying outcomes can result from different statistical tests (Nourbakhsh & Ottenbacher, 1994; Parker et al., 2005; Shadish, 2014). Moreover, present approaches to statistical analysis with regard to single case design were not suitable for the study design employed in the study (that is, AB with fade and maintenance phases). Consequently, additional statistical analysis was not performed. More details about the evaluation of the content and context of the Social Stories™ and their effectiveness are provided in Chapter 6 (Findings). The following section describes the second method of data collection used in stage 2.

4.3.2.2 In-depth interviews during the case studies

In-depth interviewing is another data collection approach in qualitative research that entails performing rigorous personal interviews with a limited number of respondents to

seek their opinions in regards to specific concepts, procedures or circumstances (Boyce & Neale, 2006). In the context of the current study, I asked the three teachers who participated in the case studies about their experience and opinions in regards to the use of a specific Social Story™ in a social skills intervention undertaken for a specific child. The focus of these in-depth interviews was centred on obtaining teachers' perspectives on, for instance, a) the child's progress in the identified behaviour, b) each teacher's opinion of the impact of the Social Story™ intervention on the child's behaviour, c) factors that could have influenced the intervention, and d) observations and/or suggestions with regards to the Social Story™ itself. Comments were also sought from teachers on how they 'delivered' the story, the interest, motivation or level of involvement of the child in the story, etc. The teachers' understanding of self-regulation or co-construction in the context of Social Stories™ was also obtained. It must be noted that these interviews took place at the end of each phase of each case study. Also, as a participant observer, I wanted to hear what the teachers said about the success or failure of the intervention, from their point of view.

The next section describes the sampling procedure I followed for the interviews.

4.3.2.2.1 Sampling for quasi-experimental design (case studies)

As described in the preceding section, three of the 15 teachers participated in the quasi-experimental design stage of this study. Subsequently, three children of different ages and diagnosed with different levels of ASD (see Table 4.2) were chosen as subjects of the case studies. For each child, the behaviour to be modified or improved via a suitable Social Story™ intervention was specified by the teacher, and was chosen from a common set of behaviours typically demonstrated by children of similar ages in a classroom or school scenario. The teacher identified a student who had been struggling with demonstrating this specific behaviour. Social Stories™ were, therefore, chosen to address the following behaviours: *Playing with friends*, *How to greet someone at school*, and *Talking with friends at snack time*. (The Social Stories™ themselves can be found in Appendix D).

Table 4.2 summarises the participant details for the three case studies. The names of the children have been masked to safeguard their identities.

Table 4.2: quasi-experimental design Participants

Case Study	Teacher	Child identifier	Child's age	Level of ASD	Title of the Social Story™ used
1	K	BB	6 years and 11 months	Educational diagnosis of autism	Talking with friends at snack time
2	A	AA	12 years and 4 months	Educational diagnosis of autism	How to greet someone at school
3	F	M	8 years	High-functioning autism	Playing with Friends

More details about each child and the Social Stories™ interventions are provided in Chapter 6 (Findings).

The methods used for the analysis of data in the study will be examined in the following section.

4.4 Data Analysis

Different approaches exist for analysing the data gathered during a study. Two particular methods have gained widespread acceptance, namely thematic analysis and content analysis. Thematic analysis is 'a method for identifying, analysing and reporting patterns (themes) within data' (Braun & Clarke, 2006, p. 79). Thematic analysis—a popular approach not related to any specific epistemological standpoint—allows for a large volume of information to be condensed and sorted into significant topics or themes in a manner that is comprehensible to the public (Coolican, 2014). Although the information collected was not of a high volume, I made use of thematic analysis to analyse the data gathered since its categorisation into themes would aid my task of in-depth exploration of the data. I used qualitative content analysis, on the other hand, to examine the documents used in the study (Mayring, 2000). The approaches used for thematic is described in the following section.

4.4.1 Thematic analysis

I created interview transcripts from the semi-structured interviews recorded with the fifteen teachers (Appendix E for an example). I then thematically analysed the interview data using the six-step procedure provided by Braun & Clarke (2006). These steps offer useful guidelines for thematic analysis, in addition to illustrations from the authors' own methods of research, which can help guide a novice qualitative researcher. Other benefits of this approach include flexibility and the capability to explain the significant themes to be recognised in the thematic analysis process (Howitt & Cramer, 2008).

I first familiarised myself with the collected data by reading and re-reading the interview transcripts in the original Arabic, with the objective of seeking meanings and patterns. I then translated the transcripts into English, and sent them for independent back-translation to a colleague at the King Saud University. This step also entailed note-taking to enable coding in the succeeding steps of thematic analysis, thus offering "the bedrock for the rest of the analysis", as "ideas and identification of possible patterns" were developed through reading (Braun & Clarke, 2006, p. 87).

In the next stage, I performed preliminary code-generation and assembled data related to each code. The coding process entails recognising data characteristics, whether hidden or obvious. It creates codes which are the most fundamental component of the unrefined data that can be meaningfully measured with regards to the phenomenon being studied (Boyatzis, 1998). In the current study, I manually performed the assignment of preliminary codes by examining the entire dataset and highlighting significant segments. I assigned a descriptive code name to each highlighted text segment: for instance, one theme in the current study was related to the barriers to using Social Stories™. Accordingly, I created a theme with its accompanying code, as follows:

Theme: Barriers to using Social Stories™
Code: Barr SS

Thirdly, I gathered all data applicable to each theme. The use of an inductive approach in which the recognised themes are robustly associated with the data has been advocated (Braun & Clarke, 2006). The identification of themes in the current study, though data-driven, also was partially shaped by the chosen theoretical framework. At this point, the data was examined from the perspective of the general framework and in relation to the

distinct emergent themes to achieve a thorough and individual understanding of each one of these themes. Merging both my own and the participants' perceptions resulted in diverse connotations and viewpoints whilst also permitting the existence of different opinions and the evolution of original implications.

Data analysis has been described as a process that entails expanding the meaning of the interviews and "bringing the subjects'" own understanding into the light as well as providing new perspectives from the researcher on the phenomena (Kvale, 1996, p. 190). After I recognised several themes from the interviews, I repeatedly re-read and re-examined the transcripts, and constantly compared these with the theoretical framework and prevalent literature. This assisted in the generation of a list of themes and subthemes. Subsequently, I created a file in Microsoft Word for each theme, and a name and a code were assigned for easy access. I then organised the responses by theme under the related classes.

In the fourth step, I reviewed the themes that had been identified to ensure the data and codes were in harmony with these. This was done in two phases. The first phase consisted of examining the coded data extracts. I carefully read all sets of organised data to ensure that a clear pattern was produced and that they were in harmony with the assigned theme. I then determined that some extracts did not suit the current themes and new themes were established to contain them. The second phase entailed the study of the complete dataset. I re-examined each theme to consider the degree to which it correctly characterised the significance of the overall dataset. This entailed coding supplementary data in these themes. The necessity of re-coding from the data set can be anticipated as coding is a continuing process (Braun & Clarke, 2006). The following example shows three subthemes generated for the theme 'Barriers to using Social Stories™':

Theme: Barriers to use Social Stories™
 Code: Barr SS

1. Resources and technology
2. Diverse child needs
3. Difference in culture.

I defined and named themes in the fifth stage. This process of definition and refinement captures the substance of the themes, both individually and collectively, and clarifies the

features of the data captured by each theme (Braun & Clarke, 2006). I provided a comprehensive description of each theme, emphasising remarkable facets contained in the data, with particular attention paid to the themes and the research questions. Next, I created a working title for these themes. These titles were specific labels that could offer the reader the substance of the theme.

Finally, I created a report of the qualitative data analysis, reinforcing the discoveries in each theme to aid as the basis of an analysis of the significant outcomes of the study. This report offered adequate support of the themes in the data (Braun & Clarke, 2006).

At the end of the thematic analysis, eight themes were recognised: the Social Story™ concept; the sources of Social Stories™; the methods of using Social Stories™ in a classroom setting; the use of Social Stories™ as a social intervention for children with ASD; the advantages and limitations of Social Stories™; the barriers to using Social Stories™ for children with ASD; the cultural considerations and context of Social Stories™; and the factors contributing to the best use of Social Stories™ in the improvement of the social skills of children with ASD.

4.5 Quality of Research and Trustworthiness

The confidence that can be assigned to research findings is subject to the validity and reliability of the study (Devellis, 2012). From the perspective of mixed methods research, an assessment of trustworthiness is vital to ensure validity and reliability. Trustworthiness, in the context of mixed methods research, comprises credibility, transferability, dependability and conformability (Lincoln & Guba, 1985). To establish credibility, researchers must make sure that the participants in the study are precisely recognised and designated. 'Transferability' implies the capacity for generalisation, and further depends on the logic that results can be simplified or assigned to other situations or groups. 'Dependability' denotes the ability of the data to remain stable, regardless of time or varying conditions. 'Conformability' represents neutrality or the likelihood that two or more independent people will have corresponding ideas about the correctness, importance, or implications of the data (Lincoln & Guba, 1985; Polit & Beck, 2010).

The next section describes the measures applied to ensure trustworthiness.

4.5.1 Credibility.

I employed certain techniques to guarantee credibility in the current study. First, after transcribing the interviews from digital recordings, I asked participants to verify the content in the transcripts of their own interviews. Second, I employed 'member reviews', providing initial interpretations of the data so that the participants would be able to review them to allow them to check the information. This was consistent with the notion that credibility is improved through data-checking, logical groupings, analyses, and inferences with representatives of the groups that originally provided this data (Lincoln & Guba, 1985).

I also discussed the analysis of the data, such as the coding and themes with three colleagues—a method known as 'peer debriefing' (Lincoln & Guba, 1985, p. 308). Moreover, I obtained the feedback of two academics. They recommended that the number of themes be kept limited, and also advised the renaming of one or two of these themes. My supervisors also reviewed the analysis. These differing sources offered various perceptions of the data analysis and further aided in addressing the issue of individual prejudice (Patton, 1990). The data analysis in interpretive studies depends on the observations of the researcher and, simultaneously, of the readers (Bryman & Teevan, 2005). I aimed for objectivity and attempted to devise questions without being swayed by individual outlooks and beliefs. I also endeavoured to ensure that the analysis of data conveyed the opinions and attitudes of the participants whilst also accurately depicting their understanding. Furthermore, I made use of another technique, known as cross-reviewing, to prevent inconsistency during the interviews—a technique in which I invited the participants to clarify any topics that appeared to be unclear (Minichiello et al., 1995); for instance, I clarified to the teachers that I meant the origins of Social Stories™ when I referred to the sources of Social Stories™.

4.5.2 Transferability.

It denotes the degree to which the study's outcomes can be simplified or transferred to other settings, as identified by users of the research. Users observe the specific circumstances of the study and thereby relate them to comparable settings (Hammersley, 2007). I endeavoured to meet this requirement by offering a clear and detailed account of the study's methods of data collection, participants, and setting. Moreover, I provided

verbatim transcripts from the participants' interviews to avert the possibility of allegations without proof and to offer a clear view of the actual data.

4.5.3 Dependability

The dependability of a study signifies that its outcomes are reliable and can be replicated in similar contexts and circumstances, etc.; in other words, the provision of the details on the conduct of the study and data analysis can aid another researcher to replicate a study and usually obtain comparable outcomes within tolerance limits (Hammersley, 2007). In order to ensure dependability in the current study, I kept a careful record of all the methods used to gather data. For this purpose, digital recordings, interview transcripts, observations and other notes were maintained, establishing a set of suitable procedures whilst also enabling other researchers to validate the data analysis (Bryman & Teevan, 2005).

A concern in regards to dependability was associated with qualified translation. In order to prevent misunderstandings due to language and due to the fact that it was performed in the context and environment of Saudi Arabia, both interview questions and participant responses were translated from Arabic into English. The chief focus of the translation process was to make sure that there was no loss of meaning between the two languages. I translated the initial English version of each interview question into Arabic; this translation was sent to two specialist colleagues of Saudi origin. The first is a lecturer at a Saudi university and graduate of the Teachers of English to Speakers of Other Languages (TESOL) programme at the Graduate School of Education at the University of Nottingham in UK; the other has completed a doctoral degree in Translation and Intercultural studies from Leeds University in UK. They scrutinised it for accessibility and for accuracy of technical/pedagogical language.

4.5.4 Conformity.

It can be argued that varied data-gathering approaches and sources can be utilised to facilitate the wide comprehension of a phenomenon. Accordingly, conformability denotes the degree to which the outcomes of a study can be confirmed by the collected data (Cohen et al., 2007). The technique of triangulation refers to the use of two or more methods of data collection which can aid in achieving conformability in mixed methods studies (Lincoln & Guba, 1985; Cohen et al., 2007), It also offers various options to examine the same social incident to achieve data legitimacy. Many benefits are derived from using

multiple methods in research, such as the removal of bias in the study of human behaviour, for example, which is recognised as inherently multi-faceted. The triangulation of approaches can include several procedures, such as quantitative and qualitative approaches as these might result in more consistent outcomes. I accomplished triangulation in the current study through two separate methods, namely interviews and documentary analysis. In summary, I employed member reviews, peer debriefing, and methods triangulation (interviews and documentary data) to promote the quality and trustworthiness of the current study (Lincoln & Guba, 1985).

4.6 Access and Ethical Considerations

Ethics in research refers to the various guidelines associated with conducting research in a manner that is ethically acceptable (Pring, 2000). Accordingly, I followed different guidelines to ensure that I conducted the study in an ethical manner. These guidelines were in conformance with the regulations of the University of Reading and were seen to be in line with the guidelines of the British Educational Research Association (BERA). The ethical framework of a study is required to safeguard—to a feasible extent —all subjects participating in the research, namely respondents, researchers and so on. The framework should also apply through the course of the research until the publication of the results. Key issues to be addressed by researchers include shielding participants from maltreatment, confirming the privacy of study data, and the prevention of the deliberate deception of study subjects (Wallen & Fraenkel, 2001, pp. 23–24).

In the context of the current study, I prepared an ethical research proposal, which I then submitted for review to the Research Ethics Committee of the University of Reading. I commenced the study only after receiving approval from the committee's Chair (Appendix F). I then began the arduous process of obtaining access to the schools. This entailed the submission of an application to the MoE in Saudi Arabia seeking provisional permission to perform the study at two mainstream boys' schools in Riyadh. I also had to discuss the main purposes and outcomes of the study with several significant persons in the MoE, such as representatives from the Department of Educational Research and the Directorate General of Special Education.

Once I had received the provisional permission, I submitted it, along with the research schedule and other supporting documents to the Saudi Cultural Bureau in London to

facilitate the submission of a formal request to my sponsor—the University of King Saud in Riyadh—for approval to commence data collection for the study. I received the final approval after two months. As the next step in the process, I made personal contact with the MoE with a request to issue letters to the LEA in Riyadh. The Riyadh LEA permitted me to contact the two selected mainstream boys' schools that accommodate children with ASD (Appendix G). This helped me gain access to the special education teachers, which meant that I could ask these teachers to participate in the study after giving them assurance of informed consent and anonymity.

Consent forms (in Arabic) were obtained from the study participants prior to commencing the study (Teachers informed consent forms can be found in Appendix H). These forms contained details of the study's objectives, goals and anticipated gains. Furthermore, the consent forms contained requests for participation and documented the right of a participant to pull out at any stage from the study without any unfavourable outcomes, thus confirming that "informed consent implies informed refusal" (Cohen et al., 2007, p. 78).

I assured the participants of anonymity within the study prior to the commencement of the interviews. They were also informed that any information provided by them would be utilised only for the study's objectives. I recorded the interviews after obtaining the participants' permission, although the recording could be suspended midway if this was requested. This was especially significant in making the participants feel at ease, allowing them to express their opinions more frankly. Furthermore, I assured the participants that the codes employed to depict them in the breakdown, analysis and distribution of data would be carefully assigned to protect their identities. I fulfilled this assurance by using pseudonyms and listing the interviews in a non-sequential order to safeguard their identities. Moreover, once the collection of data was complete, the data was archived in a secure place and this was not disclosed to other parties, such as school principals, other teachers, or supervisors.

I designed the present study with due consideration to avoid any allegations that I practiced deception or deceived the participants to gain study data (Creswell, 2007). To avoid bias, I also provided each interviewee with the opportunity to examine their own interview transcript and explain their responses if required. I made use of unbiased information to prevent labelling or stereotyping. I deleted comments from the analysis

that were made off-the-record, unless agreement to retain them had been garnered to safeguard the participants from negative repercussions.

I conveyed significant data about the goals and advantages of the study to the participants to circumvent issues related to deception and so that they could comprehend the importance of the study from the perspective of the application of Social Stories™. I also clarified the study's concerns of ethics and bias; more specifically, the objective of inspiring participants to consider how they used Social Stories™ in a new light. Finally, I explained my own individual motives in performing the research, which included gaining more knowledge on the topic and obtaining a higher qualification. The participants could then feel that their efforts were appreciated through the recognition of the value placed on their input.

Concluding remarks

This chapter has provided an account of the methodology implemented for the current study, as well as how my use of the methodology in performing the study. As stated before, the main objective of my study was to analyse and assess the perceptions of teachers with regard to the usage and efficacy of Social Stories™ as a behavioural skills intervention tool for children with ASD. In order to achieve this objective, I focused on the association between Social Stories™ and the children for whom they are used. To fulfil the need of epistemology, I assumed that human beings socialise in specific ways that influence our observation of them, and that customs, morals, principles and upbringing add to the creation of the social environment. I therefore perceived that the views of teachers and examples of their experiences with using Social Stories™ in school were appropriate sources of knowledge for this study. Also, I observed the behaviour of children with ASD in school and the mediation of these behaviours through Social Stories™ by teachers. In effect, I employed the pragmatic paradigm to inform my study.

Since the pragmatic paradigm adopts mixed research, this offered valuable narratives from teachers in relation to the adoption of Social Stories™ for children with ASD and the success, or otherwise, of this method. By using mixed methods, I could develop a deeper understanding of the specific subject, which fulfils the main aim of constructing an image of the exchanges, encounters, and opinions of teachers on the successful use of Social Stories™ with children with ASD in the context of their schools in Saudi Arabia.

15 teachers were interviewed and their responses were examined and evaluated through thematic and content analysis to derive deeper meaning. I also chose a quasi-experimental design (three case studies) as a method to evaluate and assess three separate instances of interventions using Social Stories™™. The methods I used for data collection and sampling was also reviewed in this chapter, with the provision of a detailed description of interviews and documentary analysis. The details of the approach I followed for mixed data analysis (thematic analysis and some quantitative analysis) also were discussed followed by the details of how I ensured quality and trustworthiness in the study. The measures undertaken to guarantee trustworthiness that is, credibility, transferability, dependability and conformability were also described, as were the considerations related to access and ethics. The next chapter will present the findings of this study gathered through the research process.

Chapter 5: Findings of Stage One (Exploratory with Interviews)

Introduction

As stated previously, the aim of this study was to understand the perceptions of special needs teachers from two mainstream boys' schools in Saudi Arabia regarding the use of Social Stories™ as interventions to help children with ASD develop their social interaction skills and the behaviours associated with these skills. This chapter describes the findings from the exploratory interviews in Stage 1 of the study.

I will first restate the study's research questions for the benefit of the reader:

1. What are the perceptions of Saudi special needs teachers concerning the use of Social Stories™ in developing the social skills and positive learning behaviours of children with ASD?

2. How do Saudi special needs teachers perceive the effectiveness of the Social Stories™ in influencing behavioural changes of Saudi children with ASD?

3. What are the perceptions of special needs teachers concerning whether Social Stories™ can be enhanced by customisation to support children with ASD in the Saudi cultural context?

As discussed in Chapter 4 (Methodology), the first stage of the study entailed the collection of data from 15 teachers at two mainstream boys' schools in Riyadh, Saudi Arabia using semi-structured interviews. As described in Section 4.7.1, after the thematic analysis was completed eight themes could be recognised from the responses from these interviews: the Social Story™ concept; the sources of Social Stories™; the methods of using Social Stories™ in a classroom setting; the use of Social Stories™ as a social intervention for children with ASD; the advantages and limitations of Social Stories™; the barriers to using Social Stories™ for children with ASD; the cultural considerations and context of Social Stories™; and the factors contributing to the best use of Social Stories™ in the improvement of the social skills of children with ASD. Table 5.1 provides the research questions and the themes aligned to these questions.

Table 5.1: Themes framed from research questions

Research questions	Theme
What are the perceptions of a sample of Saudi special needs teachers regarding the use of Social Stories™ in developing the social skills and positive learning behaviours of children with ASD?	Concept of Social Stories™ Sources of Social Stories™ Methods of incorporating Social Stories™ in classrooms Use of Social Stories™ as a social skills intervention Advantages and Limitations of Social Stories™ Barriers to using Social Stories™ for children with ASD Factors which contribute to the best use of Social Stories™
What are the perceptions of the Special Needs teachers regarding whether Social Stories™ can be enhanced by customisation to support social skills in children with ASD in the context of the Saudi culture?	Cultural considerations and context of Social Stories™

For a social skills programme to be effective, it is imperative that the skills of the person delivering the intervention match the strategy used this intervention and, also, that the intervention chosen matches the targeted objective of the skill development. As discussed in Chapter 4 (Methodology), key themes were identified to elucidate the teachers' perceptions on the use of Social Stories™ amongst children with ASD. The opinions of the teachers, which have been categorised by these themes, are presented in the subsequent sections.

Theme 1: Concept of Social Stories™

The first theme deals with the understanding of the concept of Social Stories™ amongst the teachers; that is, the teachers' articulation of their understanding of Social Stories™ and their implications, features, structure and functions. I found that although the teachers had definite and independent opinions, their responses clearly indicated a general understanding of both the notion and implications of Social Stories™. They also displayed an understanding of their features, structure, and function.

When discussing the notion of a Social Story™, T14 defined it as: *"A written narrative accompanied by visual diagrams and meant to explain a given behaviour or circumstance"*. T15, on the other hand, perceived it as a *"short written story created for a particular child, taking into account his or her attention span and level of reading and containing illustrations"*.

Three teachers, T1, T2 and T3, considered the key structural aspects of Social Stories™. They observed that these stories were composed of short, simple sentences that children with ASD could easily understand. T13 and T14 also defined Social Stories™ in terms of structure, but included the visual aspects.

Two other teachers, T7 and T8, were more preoccupied with the function of Social Stories™ as they agreed that these were "short stories meant to assist children with ASD". T7, in particular, also included details of the features of a Social Story™ when he stated that *"it uses descriptive words and pictures to refer to feelings, ideas and beliefs to teach others"*.

T9, T10 and T12 had similar opinions about the functional perspective of the Social Story™. For example, T10 said: *"It is a strategy used to improve social interaction among children with ASD"*. T11 further explained how the Social Story™ contributed to develop the child's interpersonal communication by saying: *"They are a tool used in aiding children with ASD to understand interpersonal communication so that they can be able to interact easily with other people"*. I observed, however, that these teachers did not mention the use of images or photos in the stories.

T4 and T5 focused on the features of Social Stories™. They explained that a Social Story™ described a potentially challenging skill, situation, or concept in relation to relevant social cues, common responses and perspectives.

Overall, the teachers who participated in the study considered Social Stories™ to be short, illustrated stories written to suit the comprehension levels of children, to address challenging skills or situations, and to aid children with ASD in understanding interpersonal communication. In their opinion, Social Stories™ aim to help children with ASD develop their social skills and understand 'how' and 'why' to behave in a range of

common social interactions. Examples of social situations include day-to-day interactions such as greeting each other, playing with one another, and relationships with their peers, parents, and other adults.

Theme 2: Sources of Social Stories™

The second theme analysed the sources of the Social Stories™ used by the teachers. As found through the literature review (Chapter 3), the quality of a Social Story™ may be compromised by its origins which may, in turn, affect its effectiveness. In this study, although teachers provided a range of responses about the sources of Social Stories™, I found that, in general, they either made their own stories or procured them from bookstores. The findings have been categorised into two sub-themes to provide more detail.

Figure 5.1 depicts the two sub-themes arising from the sources of Social Stories™.

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            ┌─────────────────────────────────┐
            │   Sources of Social Stories™    │
            └─────────────────────────────────┘
           ┌──────────────────┐   ┌──────────────────────────┐
           │ Shops and internet │   │ Teachers and other schools │
           └──────────────────┘   └──────────────────────────┘
```

Figure 5.1: Sources of Social Stories™

Sub-theme 1: Shops and internet

Nine out of the 15 teachers used Social Stories™ obtained from the internet or from shops in Riyadh. The shops frequented by teachers to obtain Social Stories™ included bookshops recommended by their school administration. The teachers observed that the resources available in the bookshops were sometimes limited, both in terms of quality and quantity, and that they did not always support the teachers' requirements or strategies for teaching. For instance, T6 reported *"I went to look for a Social Story™ to help my child with keeping his hands to himself when writing a test. I couldn't find anything suitable. I just wasted time at the shop, it might have been simpler to just write it myself."*

The teachers also agreed that the stories bought from bookshops appeared to have been

created by authors who had neither a practical understanding of the different needs of the children nor were they able to comprehend the complexity of the classroom situation. T11 observed:

> *The Social Stories™ that are in the bookshop are created by people who do not have an idea of the needs of my children. I therefore prefer making my own following the approach given by Carol Gray. A Social Story™ is individualised - therefore I have to understand the needs of every child.*

This is understandable, given that many of the Social Stories™ available for purchase in Riyadh have not been developed locally; rather they are imported from different countries. Such stories often do not meet the cultural needs of the children in Saudi Arabia and are difficult to adapt for them. T15 reported:

> *"Recently I bought a Social Story™ from the recommended bookshop. The story was about going to the mall. It contained pictures of unveiled women, however, and one even contained a picture of the Israeli flag in the background, so I could not use it as it was. I had to spend some time replacing the pictures with more suitable ones…"*

Similarly, another teacher, T13, reported *"…using shop-bought Social Stories™ can be more trouble than they are worth…I have to read each word carefully…so many issues…"* From these observations, it is clear that the teachers believe that Social Stories™ should be specially developed to support children with ASD by targeting specific behaviours, through explaining the situation and describing other people's perspectives. The sample teachers advocated taking culture into consideration, as it has a critical role in influencing the behaviour of the learners as well as the people in their vicinity. The teachers' opinions, therefore, demonstrated that they believe in creating customised stories that are relevant for their children as well as suit the specific needs of the learners. As T8 expressed: *"I wanted a Social Story™ for my child who would not raise his hand in class before asking a question. I couldn't find a story that I could use in the shops, so I decided to create one on my own."*

Another source that the teachers used for Social Stories™ was the internet. For example, T5 and T15 obtained their Social Stories™ online. They defended their stance by stating that there were ample stories available online and that, based on the needs of the children

or the situation/context, appropriate stories could be downloaded. T15 stated: *"At first I downloaded most of the Social Stories™ I used to teach from the internet"*. In particular, the teachers downloaded Social Stories™ from the educational websites of different countries, along with e-books written by foreign authors.

The analysis of this sub-theme highlighted that teachers tend to get their Social Stories™ from shops or the Internet. Even teachers who relied on shops and the Internet for stories realised the shortcomings/limitations of such stories and acknowledged the need to customise them to address specific situations. The shortcomings expressed included the lack of stories to cover different situations and the issue of cultural context due to their non-Saudi origins. As explained in Chapters 2 and 3, not observing the cultural rules in Saudi Arabia can have serious social implications, so it is necessary to guide all children, not just those with ASD, into social interactions that are appropriate for their local environment.

Sub-theme 2: Teachers and schools.

Many teachers developed Social Stories™ on their own and did not rely on external sources. Some schools were also well-stocked with Social Stories™ as noted by T10: *"I get Social Story™ books from the library at school. At the school, however, we do not have enough illustrated storybooks and it is a challenge"*. The Social Stories™ available in the school library were limited in quantity and quality. Accordingly, most (10 out of 15) of the teachers interviewed reported that they created their own Social Stories™.

T4 and T15, for instance, said that they normally wrote their own stories and preferred to produce a Social Story™ according to children' needs and also based on the goals to be achieved by their children. It was thus evident that some teachers liked to create the Social Stories™™ themselves. Developing Social Stories™ 'from scratch' is a time-consuming task, however; because of this, the teachers may prefer to buy Social Stories™ and save time. As T2 observed:

> *"...creating a Social Story™ from scratch takes too much time. First I have to pinpoint a situation, then I have to choose sentences carefully and support these with visuals... I already have so many things to do in school."*

Overall, the teachers' comments recognised the need for appropriate local sourcing of

Social Stories™. The researcher found that even those teachers who sourced Social Stories™ from bookshops or the Internet preferred to select stories that suited the needs of local children; if they were unable to get the appropriate content, they preferred to create their own stories. Both groups of teachers, those who created their own stories and those who obtained them from third parties, strongly agreed that the stories obtained from foreign sources could not be used without modification. Locally purchased or independently developed Social Stories™ could address the specific needs and cultural sensitivities of Saudi Arabian schools. As T13 put it:

> *"...using Social Stories™ created in Saudi Arabia would be so much more useful for us. I wouldn't have to spend time checking every word or element in the pictures to ensure that they passed muster in our country's context…"*

Independently developed Social Stories™ were also reported as helpful in understanding the individual needs of the sampled children with ASD, as opposed to ready-made stories obtained from third parties. At the same time, Social Stories™ made by professionals were often suitable for developing the social skills of most children with ASD, as they would have been used in a wide range of situations and environments. Despite the commercial publications offering generic Social Stories™ for common social situations, this study highlights the need for individualising the content of the story based on each learner's unique behavioural needs.

Theme 3: The Use of Social Stories™ as a Social Skills Intervention Tool

The aim here was to investigate teachers' views of Social Stories™ as an effective form of intervention. I wanted also to determine if the sample teachers believed that Social Stories™ used alone could produce desired effects or whether they needed to be complemented with other methods. The survey of literature showed that there were differences of opinion regarding these two schools of thought. Accordingly, the current study also investigates both aspects. Figure 5.2 below provides the two sub-themes identified for this theme.

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┌─────────────────────────────────────────────────────────────┐
│      Using Social Stories™ as a social skills intervention    │
└─────────────────────────────────────────────────────────────┘
         │                                    │
┌────────────────────────┐      ┌────────────────────────────┐
│ Using Social Stories™   │      │ Using Social Stories™       │
│ as a stand-alone        │      │ alongside other             │
│ intervention            │      │ intervention techniques     │
└────────────────────────┘      └────────────────────────────┘
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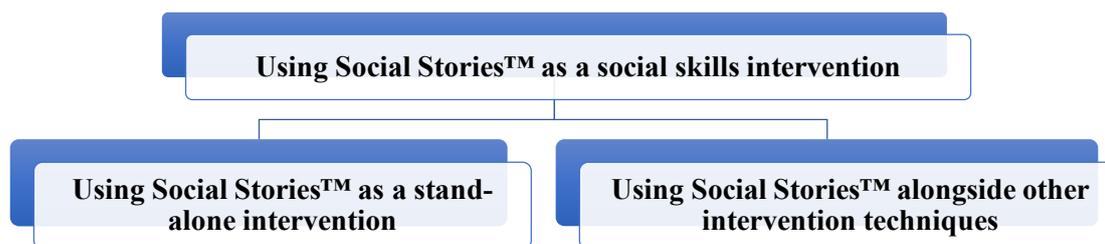
Figure 5. 2: The use of Social Stories™ as a social skills intervention

Sub-theme 1: Using Social Stories™ as a stand-alone intervention.

Nine teachers were positive about the use of Social Stories™ as a behavioural intervention. T3 considered it as being a good form of customisable intervention to match the stories to the individual requirements of children, for example. T4 commented that *"Social Stories™ help to translate challenges into a more approachable form for children with ASD"*. T6 and T7 felt that, when Social Stories™ were used as a form of intervention without the influence of other methods, such as DTT, video modelling, and so on, they were more effective. This may be because the children were comfortable with Social Stories™ or with those particular Social Stories™ used in this research study. This could be attributed to several reasons, such as their use of brief, meaningful sentences, and illustrations, or their use in the school. Such a view was endorsed by T8: *"Social Stories™ are positive due to the comfort children with ASD have around visual learning methods"*. The teachers, from their experience, observed that these children were a lot more interactive and excited about stories that were shown to them and consequent interventions using Social Stories™ caused them to become less withdrawn or isolated and aided in reducing their behavioural problems. As was seen in the research background, interventions for individuals with ASD in Saudi Arabia are limited but include TEACCH, ABA, EIBI, HELP, PEP-3, PECS, and one-to-one support (Zeina et al., 2014). It can be assumed, therefore, that special education teachers in Saudi Arabia receive some degree of training in these methods.

Ten teachers in this study considered that children with ASD needed Social Stories™ because these types of stories were individualised, easy to teach and supportive of the learning process. They could be customised according to the learner's needs. It was noted by nine of the interviewees that children with ASD often have learning and/or behavioural issues and often need micro-stepped pedagogical methods and strategies so that their

learning is supported in order to achieve success. This implies that the Social Stories™ used in this study assisted children to improve the way they interacted with others. For example, these could be models of how to play collaboratively as part of a group or simply how to ask for directions. From the responses, it is clear that teachers used Social Stories™ to help children in developing their social skills. Their intention in doing so was to help the children adapt to society. As T11 observed, *"I found that using Social Stories™ can help my children participate better in school and also outside."*

Sub-theme 2: Using Social Stories™ alongside other intervention techniques.

As a stand-alone method, T1 and T2 contradicted others' positive views on Social Stories™ as they felt that they required a great deal of time to demonstrate positive results. T12 opposed Social Stories™ as he observed that *"they [Social Stories™] are not effective alone as an intervention method."* They did not consider Social Stories™ to be an advisable strategy to produce immediate results. They believed, however, that when Social Stories™ were linked with other intervention techniques, such as DTT or video modelling, they could produce better results.

Similarly, three other teachers reported that Social Stories™ were ineffective if used alone. It should be noted, however, that the effectiveness of Social Stories™ could be influenced by the means used to present them and the specific behavioural context for which a story was used. T1, because of their years of experience in teaching children with ASD, considered that *"Social Stories™ on their own are not appropriate for developing social skills in children with ASD"*. This response indicates that Social Stories™ are unlikely to address all the behavioural requirements of children with ASD by themselves. They are unable to adequately cover all cultural aspects when used alone, therefore they need to be used alongside other behavioural interventions to appropriately model cultural considerations. 13 of the teachers drew attention to the differences in culture between Saudi Arabia and the Western world, for example. They found that explaining the distinctions could not be adequately covered by Social Stories™. They found it more effective to show videos to help the children understand the differences. They found, for example, that a video of boys interacting with girls wearing headscarves in a social occasion was more effective than just using a Social Story™, although they admitted that the story could have been used initially to introduce a child to the situation.

T11 did not deny the benefits of Social Stories™ but considered that they would only have a positive impact if combined with other strategies and methods. To decrease disruptive behaviour, T11 used a Social Story™ along with verbal prompts, after which they observed decreased disruptive behaviour from the children. All of the teachers agreed that Social Stories™ should take into account the individual needs of a learner. T14 reported, for example:

> *"...some children with ASD may struggle with listening, others may struggle with talking in social situations, while others may find difficulty mainly in reading and writing. Therefore, no single Social Story™ can address any child's needs."*

Indeed, as mentioned by T14, as every individual's behaviour is different even in the same situation, Social Stories™, especially when performed in a classroom situation, may not produce the desired effect with every child. Supporting Social Stories™ with other intervention methods, like verbal prompts, videos, pictorial and written cues, etc., may therefore produce better results.

There was a majority view among the 13 teachers interviewed that Social Stories™ could only go so far as a successful form of intervention. To achieve positive results, time and effort should be spent individually on children with ASD, appreciating and supporting the differences among them through differentiated teaching strategies. Unfortunately, time is a limited resource for teachers; therefore, they are unable to realise the full potential of these stories. Social Stories™ were perceived by these teachers as a positive teaching method, yet the effect was limited when used without other methods. None of the teachers could explain the part played by Social Stories™ when used in combination with other methods, however.

In conclusion, the teachers reported Social Stories™ as an effective form of behavioural intervention; specifically, their view was that children with ASD could easily interpret the Social Stories™. The teachers were therefore able to use these devices to encourage children to focus on particular behaviours, like playing with others amicably and crossing the road. As Social Stories™ concentrate on specific social situations, for example how to greet other people, the teachers found them suitable for helping some children with ASD. Nevertheless, most of the 13 teachers agreed that Social Stories™ should be implemented with other interventions in order to be fully successful, because stand-alone

strategies "take way too much time and are not very effective when used alone" (T3). Seven of the teachers believed that augmenting Social Stories™ with other methods could aid in reinforcing the required behaviour. A Social Story™ could be used to introduce a learner to the different actions involved in crossing the road, for instance. This would require some further reinforcement, for example through video modelling, where the child could also see someone actually performing the action. Interventions using only Social Stories™ also require more involvement from the teacher as he/she has to spend time with the learner in reading the story and then asking comprehension questions. Examples of the actual use of Social Stories™ in social skills interventions will be provided in the case studies.

Theme 4: Methods of Incorporating Social Stories™ in Classrooms

Teachers' perceptions of how Social Stories™ should be incorporated in the classroom were noted. Teachers followed a variety of methods to incorporate Social Stories™, including computers, projectors and videos. The use of visuals, though originally not a part of Social Stories™, have become the norm in these, though it is recommended that they be used with care due to the tendency of autistic individuals to take things literally.

11 of the teachers stated that they primarily used PowerPoint presentations, multi-media computer programmes and video, which could be used in a classroom or resource room. For example, T10 stated: *"I use various methods, including video presentations, computer presentations, digital strategies, PowerPoint, and audio material incorporated with visual prompts"*. 12 of the teachers reported that they typically used Social Stories™ with one child/learner at a time at a separate desk or resource room. In some cases, where there were three or more children with ASD in the classroom, the stories were displayed in the classroom. It must be noted that this was during 'break times' when the other children had stepped out of the classroom. As T14 mentioned:

> *"I have four children with ASD in my class so use the overhead projector in the classroom to show the Social Story™ in the break time. Sometimes some of the other children stay in the classroom as they are curious, I don't send them out…"*

The teachers' opinions on the use of different methods of display distinctly demonstrate that using one method of incorporating Social Stories™ is not enough, and that they perceived that a variety of display methods would be more likely to attract the attention

of children with ASD. For instance, with the advances in modern technology, children are aware of iPads® and tablets and look forward to their use. These could be used in the presentation of Social Stories™ to the children. The teachers, such as T1 and T2, were thus interested in experimentation and developing diverse methods for keeping their children engaged.

T3 used additional methods in order to assist the particular needs of the children who were being taught. PowerPoint was used to present stories, along with visuals, illustrations and audio prompts. T15, in comparison, preferred to only use projected PowerPoint presentations: "I mainly present the stories using a PowerPoint presentation and a projector; this makes the story visible to the child with ASD".

T5 used a range of colourful materials:

> *"Since most children with ASD are visual learners I use visual aids in my classes. I use a large board covered with white cloth and pin the pages of the Social Story™ to the board. Sometimes, I use a flip chart…all these help to engage the children."*

It seems a shared viewpoint that reading a Social Story™ to a child can render a supporting strategy to 'scaffold' behaviours and social skills, particularly when repeated by the teacher or when the learner is asked to read it and memorise it.

T10 and T5 said that they *"preferred a method using images along with short phrases and easily understood words"*. The teachers interviewed thus perfectly understood the need for visual cues to assist children with ASD, which could be made more attractive using pictures, colours and moving presentations. Video projection also helps to capture children' attention, thereby improving their learning.

The responses from the interviewees indicated the availability of different display methods for Social Stories™, and their use to effectively capture the attention and understanding of their children. Methods of incorporating Social Stories™ include video, PowerPoint slides, or flashcards.

Theme 5: Advantages and Limitations of Social Stories™

The fifth theme concentrates on the teachers' thoughts on the opportunities and challenges

of Social Stories™ and their use in the classroom to assist the social development of children with ASD. The data for this theme is categorised into two sub-themes, which are now explored in more detail. Figure 5.3 provides the two sub-themes identified for this study.
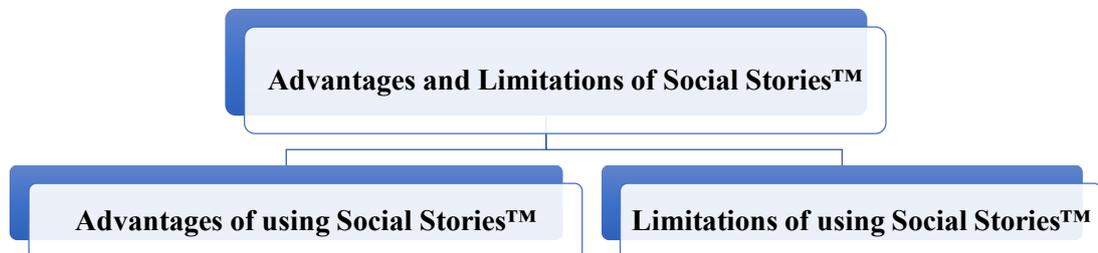
Figure 5.3: Advantages and Limitations of Social Stories™

Sub-theme 1: Advantages of using Social Stories™ for children with ASD.

T1 and T2 considered the main benefits of Social Stories™ being the simplicity of their use, as they did not necessitate much equipment or many materials, but had the potential to be customised and individualised depending on who was being targeted. When interviewed on the benefits of Social Stories™, T4 commented: *"One of the main advantages of using Social Stories™ in teaching social skills among children with ASD is the fact that they reveal accurate social information in ways that are clear and reassuring".* Having four years' experience in teaching children with ASD through Social Stories™ had enabled T4 to recollect instances of how these had helped children to recollect social information.

T5, having eight years of experience, had much to say on the benefits of using Social Stories™, based on how his students had responded to them:

> *"[They] aided in developing self-care skills, and social and academic abilities. They are effective for helping an individual adapt to changes to normal and surprising or troubling occasions like moving to a new house or storms."*

T6 added to this list of positive benefits, saying that *"Social Stories™ may help children to develop their social ideas in a less complex manner".* Even visiting a shopping mall is a complex process for children with ASD. Since Social Stories™ prepare the children for what to anticipate and how to react to the new situation through simple drawings and texts, these stories benefit the children enormously. T7, with five years' experience in teaching,

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commented that *"Social Stories™ gave children with ASD an opportunity to learn how to interact with the members of a given society. It teaches them how to properly behave and become acceptable members of the community"*. I believe this is a valid view, as teachers should have close interaction with the children's parents and obtain feedback from both the pupils and their parents regularly on their behaviour at home and other circumstances. T8 added that *"they are normally tailored specifically for every child individually, addressing problems based on every child's perspective. Social Stories™ are also cost efficient and flexible to use, they help in developing the child's social skills"*.

T10 considered it a key benefit that children with ASD were easily captivated by Social Stories™, and found them easy to comprehend and concentrate on. He said:

> *"[Social Stories™] helped to strengthen the morale and confidence of children with ASD, particularly as they are active learners within the process. Social Stories™ were also simple to access on the internet, with free and premium versions that were easily accessible."*

T10, as previously stated, used different methods (video and computer presentations, PowerPoint, and audio material, etc.) to capture the attention of children and make them participate. T11 considered the benefits of Social Stories™ were that "children would be able to approach the cultural context of Saudi Arabia and understand it fully, knowing how best to deal with a social situation and what behaviours were regarded as socially acceptable".

T12 considered Social Stories™™ to be suitable because:

> *"They were easy to comprehend, due to their composition of simple visual aids and their descriptions of clear behaviours that should be emulated by the child. This means that children would be able to improve their social skills and interact appropriately with their peers and their elders."*

Sub-theme 2: Limitations of using Social Stories™ for children with ASD.

In terms of the limitations of Social Story™, T1 stated: *"the stories were not enough in*

themselves to stand alone as a behavioural intervention". T2 felt the limitation to be that "[Social Stories™] required additional strategies to work effectively, but also that they took a lot of time to implement and to individualise".

T4 found Social Stories™ to be difficult to locate, both locally and online. T8 added a comment on the drawbacks, saying, *"they depend on the writer's skill and their ability to perceive the child with ASD. This is difficult for those who are not trained to make such perceptions"*. T9 added that "materials of Social Stories™ are not easily available in every library or bookshop and it requires a lot of time to prepare and present Social Stories™ to children". T11 considered the key limitation to be that *"the development of the social skills and behaviours of children was temporary, and difficult to implement long term"*.

T14 and T15, while emphasising the usefulness of Social Stories™, also noted some limitations of Social Stories™. *"Social Stories™ depend on the knowledge and skills of the authors, and when his knowledge is insufficient in the field of ASD, this may be passed into the Social Story™."* This is an important aspect, since not all authors who write these Social Stories™ are professionals; some may do it for commercial purposes, which means the resulting materials are less appropriate for the target children.

Theme 6: Barriers to using Social Stories™ for children with ASD

From a practical perspective, several factors, like resources and technology, diverse child needs and difference in culture, should be considered before implementing the Social Story™ method. The data for this theme is categorised into five sub-themes and is provided in the subsequent sections (Figure 5.4).
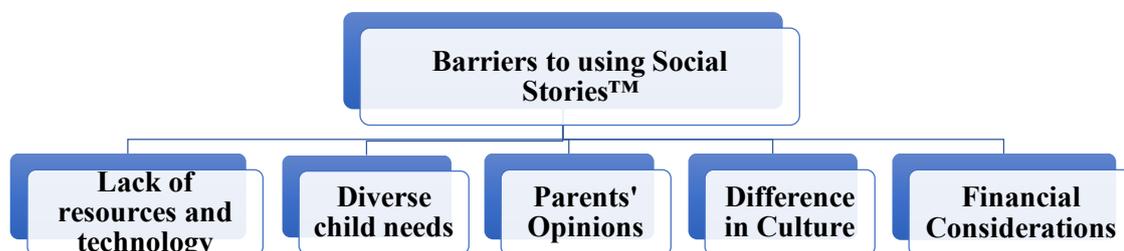
Figure 5.4: Barriers to using Social Stories™

Sub-theme 1: Lack of resources and technology.

Technology was identified as an important tool in teaching, and it can be used in

presenting Social Stories™ to children with ASD. The teachers' opinions, however, suggest that access to such technology is not always possible.

T5 considered that the facilities provided by the school were by far the major issue in assisting children with ASD to develop the necessary social and life skills. He said:

> "...if the school did not help effectively in providing materials and resources for teachers and classrooms, then teachers would be unable to utilise the relevant aids and behavioural interventions to assist children with ASD and provide them with Social Stories™."

Sub-theme 2: Diverse child needs.

Children with ASD can have disorders in social, communication and behavioural skills, but they are also known to have visual-spatial strengths (Flynn, 2004). As found through the review of literature, it is not possible for teachers to create a single strategy that fits all, so they should constantly modify these instructional strategies in diverse ways.

This theme deals with the diverse range of learning requirements of children with ASD. Any mistaken assumption that all children's learning requirements were the same when developing a behavioural intervention would lead, in the opinion of these teachers, to a range of problems for any child. T1, T2 and T11 held that *"Social Stories™ were challenging to use when dealing with a wide range of children with varying needs, and they questioned the extent to which these stories could help the majority of children with ASD."*

T3 and T14 suggested the need for teachers to develop Social Stories™™ that were appropriately individualised to address particular learning and behavioural challenges. The Social Stories™ that were also targeted across different stages or grades may not be as effective as they may either be too difficult or too simple, T3 thought that *"while certain children may learn more quickly using Social Stories™, other children would find it harder to learn at such a speed".*

Sub-theme 3: Parents' opinions.

Another important obstacle faced by teachers was the attitude of the parents towards the use of behavioural interventions. T13 said: *"Parents often did not want to consider that*

their children had learning difficulties".

The above point highlights the importance of involving parents in supporting these interventions. It is important to inform parents that they have a critical role to play in supporting their children's learning progress as a normal routine practice in all schools. For example, parents can simply but regularly read Social Stories™ to their children when they are back from school, or help children understand the Social Stories™ taught at school. Teachers, parents, and child should cooperate to make learning easier. Since the focus of the current study was the use of Social Stories™ by teachers, I did not pursue this line of inquiry in this study, but it could be an area for further investigation.

Sub-theme 4: Difference in culture.

Culture has implications for Social Stories™ as it may determine the outcome of these interventions for children with ASD. In the sample schools in Riyadh, one of the important challenges noted during this study was the inappropriate use of Social Stories™ that overlook the cultural context. The Social Stories™ available in Saudi Arabia have usually been commercially developed and typically lack embedded cultural nuances. Stories from commercial sources consequently perplex the children, as they are unable to comprehend their context; this complexity becomes exaggerated when there is a conflict with the local culture. A common example of this is gendered dressing in Saudi Arabia; young girls wear long dresses and a head covering. The stories developed commercially may show young girls to be wearing shorts like boys, confusing the children with ASD as they are unable to understand the appropriate dress for a girl in the Saudi context. Such a sentiment was echoed by the respondents of the study. T1, for instance, *said "there was also the issue of the bookshops selling Social Stories™ that were not in line with the country's culture being another barrier to its effective usage"*. The respondents' concern over the non-availability of Social Stories™ that portray Saudi culture is evident from the statement made by T8: *"Amongst the barriers I face is the lack of locally developed Social Stories™ online as most of these are tailored for children in Western countries. There is need to develop these, targeting local children"*. Language and cultural concerns were highlighted by T4, who suggested translation of English stories into Arabic and adaptations to cover Arabic cultural concerns.

Social Stories™ from cultures outside the local context are a recurrent problem. The main

challenge, until Saudi Arabia relaxes its rigid cultural and religious codes, is how to develop the Social Story™ market to incorporate the Saudi cultural and traditional context, or how to adapt the foreign market of Social Stories™ to assist a wider group of children with ASD. Any stories used in schools must reflect the lifestyle and traditions of the country, as well as the language, to some extent. Interviewee T9 stated that *"a key problem facing Social Stories™ is the culture and symbols used in these stories"*. According to T13, Social Stories™ that were produced locally would better reflect the cultural aspects of Saudi Arabia. The dress code, symbols, foods, etc. used would be more likely to take Saudi Arabia's religious and social guidelines into consideration.

Sub-theme 5: Financial considerations.

Financial constraints were another factor the teachers reported as a barrier to using Social Stories™, particularly since some of the equipment and technology that could be used to help children, such as computers and smart boards, are expensive. The limited availability of Social Stories™ within the country was projected as yet another challenge, as teachers were unable to acquire these stories locally, and customising them was often not possible within the limited preparation time that the teachers felt that they had available. Another issue raised was that the Social Stories™ should be adapted to the level of understanding of the children who required them. All of the teachers believed that if stories needed to be adapted in order to help their children, this would be an expensive and time-consuming procedure.

The participating teachers therefore envisaged a range of problems inherent in the use of Social Stories™. They believed that these issues needed to be addressed in order for the stories to be used effectively within the classroom and to achieve their goal of developing the social and communication skills of children with ASD in Saudi Arabia.

The next theme addresses the effectiveness of Social Stories™ from the perspective of their suitability for use with children with ASD in the cultural context of Saudi Arabia.

Theme 7: Factors contributing to the best use of Social Stories™ to develop social skills.

The data for this theme was categorised into two sub-themes, which are discussed in detail in this section. Figure 5.5 illustrates the two major factors, namely diversification and

appropriateness that encompass all the factors that contribute to developing social skills.

Figure 5. 5: Factors contributing to the best use of Social Stories™ to develop social skills

Sub-theme 1: Diversification.

Diversification in Social Story™ use refers to a broad range of teaching media that can enhance social skills, instead of depending on just one method.

Creating Social Stories™ concerning specific situations or behaviours is imperative to support the development of social skills. Accordingly, nine out of the 15 respondents reported that the Social Story™ should be developed for the targeted situation and behaviour. Understanding each child, however, is an onerous but professionally necessary task for the teachers; it is, in fact, the core task of effective teaching. By teachers drawing on their experience of relationship-building with the children, a personalised learning experience that suits the need of each child can be created. T3 stated:

> *"...another important aspect is the type of children. Not all children with ASD will respond to Social Stories™...It is upon the teacher to notice such children and apply appropriate interventions."*

In a similar vein, T10 noted a number of factors that facilitated effective use of Social Stories™ in assisting in the development of social skills of children with ASD. *"These include availability of resources, more infrastructure and materials needed for effective teaching of Social Stories™"* (T10). T15 considered that "the most important factor in helping children with ASD was to use Social Stories™ along with the use of other behavioural interventions and strategies".

Sub-theme 2: Appropriateness

The effectiveness of a Social Story™ also depends on the way it is formulated and conceptualised. A Social Story™ has to be linked to a certain targeted behaviour/s. A Social Story™ that fails to target any particular behaviour is hard to use in assisting children with ASD. Teachers will thus have to select suitable Social Stories™ that have a clear link to the targeted social behaviour in order to change this particular behaviour in children with ASD.

Class size could also have a considerable effect on children with ASD. It has been noted that the number of children in a class should be manageable so that the teacher can attend to each of the children personally. Each child with ASD in the class, if there is more than one, will have varying needs. The teacher should therefore appraise the individual needs of each child and design a method to address them through specific Social Stories™.

T11 and T12 considered a couple of different factors that would aid the use of the Social Story™ in teaching children with ASD, including the learning speed of children and the willingness of parents to help:

> *"The first thing to consider is the level of understanding of children. Children grasp concepts differently. Some may take a day while others may take a year. It is important to consider this so that as a teacher you may know how to deal with slow learners."* (T11).

This response underlines the fact that different Social Stories™ have to be used in class to address the varying learning needs of children.

Interviewee T13 commented that *"the effectiveness of Social Stories™ should be based on understanding the limitations of the children with ASD"*. This implies that Social Stories™ need to target the specific behaviours they seek to improve. Teachers thought that it was not only important to customise Social Stories™ and to understand the pupils' weaknesses, as the teachers emphasised through the course of this study, but their experience in working with children with ASD and in developing appropriate teaching methods was also important. The teachers also pointed out that it was necessary to involve parents as much as possible in the learning process, and to create a collaborative dialogue with the child, the parents and educators together to come up with the most appropriate solution for a child's individual learning needs. I did not have the time to discover whether

parents shared similar views with the teachers on the parents' involvement due to limited time. Technological devices were considered imperative for the usage of Social Stories™ and in engaging children more readily. Only with a range of all these factors, in the teachers' views, could Social Stories™ reach their full efficiency and be an indispensable tool for teachers, parents and schools.

Theme 8: Cultural Consideration and Context of Social Stories™

Under this heading, the cultural considerations and context of Social Stories™ were investigated. While some teachers generally considered Social Stories™ as being culturally appropriate and suitable for the cultural context, many teachers had contradictory views on this. Furthermore, teachers often did not know how to handle the cultural context.

T2 expressed the difficulties in employing Social Stories™ within the cultural context of Saudi Arabia. The effectiveness of Social Stories™, for example, is currently negated by their cultural limitations and by their unavailability. While Social Stories™ were found to be effective globally, this effectiveness was not entirely replicated in Saudi as many restrictions in this country hindered the realisation of their full potential. T2 pointed out that *"Saudi Arabia, being an Islamic country with Islamic law that governs every part of life, means that not any Social Story™ can be allowed in the classroom"*.

As a result, it is clear to see that the vetting of Social Stories™, and the occasional controversy surrounding the use of non-vetted Social Stories™, has led to a range of problems around the use of Social Stories™. While careful cultural deliberation is critical for Social Stories™ to be effective and successful, this very same cultural consideration may limit the prospective efficiency and availability of these stories in Saudi Arabia. Without a wide range of Social Stories™ developed to suit the cultural context of Saudi Arabia, children with ASD would be unable to derive the benefits and life lessons that could be discovered through using them.

Controversy over the language used in Social Stories™ amounts to another limitation. For instance, commonly used English metaphors and idioms, such as "it's not my cup of tea" do not suit the Arabic context, therefore their use could lead to a child with ASD becoming confused. In examining the problems surrounding the language used in Social Stories™, particularly when foreign/English language Social Stories™ are imported into

Saudi Arabia, T3 added: *"There is a need for Social Stories™ to be in Arabic to help the children with ASD understand what it is they are being taught. This is the only way that such a Social Story™ can help"*.

Another aspect of cultural consideration is the sensitivity towards pictorial cues used in Social Stories™. T5 succinctly framed the response as *"the use of the internet to develop syllabi and learning methods was limited by cultural and religious aspects, which for the most part determine the curriculum used within schools"*. As a result, visuals and text for Social Stories™ should, according to T5, be in no way offensive to Islam or to the cultural context of Saudi Arabia. This could in turn limit the usage of the Internet for sourcing Social Stories™, and reduce the range of websites and resources that are available to teachers and parents.

The majority of respondents (12 out of 15) placed importance on the promotion of social interaction skills of children with ASD through Social Stories™. The teachers recommended the vetting of Social Stories™ by the Ministry of Education so that they would be appropriate for use in Saudi Arabia. The stories would therefore be created to reflect traditional and cultural customs, or edited to make foreign Social Stories™ acceptable. This is not purely a policing exercise, but an educational exercise to optimise the social development of children with ASD to ensure their teaching and learning is consistent and does not cause unnecessary confusion. This was echoed by T10, who stated that *"Social Stories™ have to reflect the culture of the local people"*. A similar view was shared by T14, who responded that it was important for both teachers and the Ministry of Education in Saudi Arabia to be vigilant in examining the Social Stories™ they were using, or for teachers to develop their own. *"There are some Social Stories™ that are not appropriate for the cultural specifics of Saudi Arabia especially those that have been downloaded from the Internet"*. On the other hand, T12 took a slightly different stance on the necessity of diversity in stories, saying *"it is important to have some diversity in Social Stories™, which would further widen children's capacity for understanding"*.

Social Stories have been explored in this study ™ as an instrument for helping children with ASD to develop social and life skills. Accordingly, the factors that contributed to the best use of Social Stories™ and to the improvement of social skills have been investigated.

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Concluding remarks

The opinions of 15 special needs teachers were gathered to investigate how useful Social Stories™ could be in addressing the learning, social, and behavioural issues of children with ASD. The interview questions were prepared based on the research questions, which were, in turn, framed from the literature. To answer the research questions, eight themes have been developed to address the different aspects of effectiveness of Social Stories™.

From the first theme, it was evident that the teachers had a good understanding of the concept of Social Stories™, describing the concept in terms of its implications, features, structure and functions. This understanding is essential to successful implementation of the story. The teachers procured stories from shops and the Internet and, in some instances, created stories themselves or had them provided by the school. Teachers felt the need for stand-alone methods of social skills intervention as well as a combined approach, as some teachers believed that the Social Story™ would be most effective in conjunction with other methods. Presenting Social Stories™ through a variety of display methods such as PowerPoint presentations, multi-media programs, and video, was thought to be more likely to attract and engage children with ASD.

Teachers believed that Social Stories™ had both advantages and limitations in teaching children with ASD. Social Story™ use was not therefore without its issues. The main barriers were lack of resources and technology, diverse child needs, parents' opinions, differences in culture and financial considerations. The differences in the cultural origin and therefore the cultural mismatch of many Social Stories™ was heavily criticised by the teachers, who were of the same opinion when talking about respecting the culture of Saudi Arabia and incorporating cultural differences into the lesson so that children would be able to identify the social and cultural context. Language was considered another significant barrier, which could be overcome by using Arabic instead of English. Some of the teachers identified the vital need for involving the children. It can therefore be concluded that Social Stories™ were seen by the majority of the sample teachers as an effective intervention tool which, if designed sensitively, insightfully and with the informed needs of the 'learner' at the centre of the its planning, could meet the diverse learning needs of children. The effectiveness of Social Stories™ interventions with children with ASD is evaluated in the next chapter.

Chapter 6: Findings of Stage 2 (Three Case Studies) – Evaluating the effectiveness of Social Story™ interventions in Saudi children with Autism Spectrum Disorder (ASD).

Introduction

Across the world, Social Story™ interventions have become a popular strategy for children with ASD. Some studies (Dodd et al., 2008; Hutchins & Prelock, 2006; Kagohara et al., 2013; Crozier & Tincani, 2007; Wright & McCathren, 2012) show evidence that these interventions can be successful in helping a child with ASD actively participate in regular social settings. Interventions using Social Stories™ have targeted specific skills such as the initiation of and response to interaction with peers (Scattone et al., 2006), the exchange of verbal greetings (Reichow & Sabornie, 2009), and the improvement of overall social participation (Delano & Snell, 2006).

The current study evaluates the effectiveness of Social Stories™™ in inclusive general education settings in two mainstream boys' schools in Riyadh, Saudi Arabia. As described in the Methodology chapter, the participants were three children aged six to 12 who had been diagnosed with different levels of ASD. The target behaviour for each child was chosen from a series of common behaviours typically displayed in a general classroom or school setting and was a particular behaviour that each child had been observed to have particular difficulty with by his/her teachers. The Social Stories™ chosen were Playing with friends, How to greet someone at school and Talking with friends at snack time.

For an intervention to be successful, a teacher should be aware of the individual child's skills and capabilities and how best to encourage and support participation from him/her (Hart & Whalon, 2011). The teachers who participated in this study exhibited a high level of sensitivity and motivation to improve specific social skills of the identified children. The Social Stories™ used in the study were either created or purchased by them, as will be evidenced in the three case studies. In one of these from school (S), two other teaching staff members from school (W) participated in the evaluation of the stories. The following sections provide an overview about evaluating Social Stories™ and measuring their effectiveness in a specific social skill intervention for a child. Subsequent sections discuss,

in detail, the three case studies undertaken in this study.

6.1 Evaluating Social Stories™

Please refer to Sections 4.5.2.1 and 4.5.2.2 of the Methodology chapter for details of the approach used to evaluate the content, context and effectiveness of Social Stories™.

6.2 Measuring the Effectiveness of Social Stories™

Social Stories™ are a common intervention method used with children with ASD (Sansosti et al., 2004). Their effectiveness, however, has not been conclusively proven and further research is required to determine both the profile of the child as a subject with behavioural issues and the precise factors which influence a Social Story's effectiveness. It has been suggested that due to a lack of experimental regulation and unpredictable treatment variables encountered in several studies, that Social Stories™ alone might not be responsible for producing significant and positive changes in behaviour. Teachers and parents may have to provide support by using other intervention methods, such as modelling and reinforcement, peer-mediated interventions, and reinforcement schedules and activities (Watts, 2008). It must be noted that the current study only involved teachers.

The Social Stories™ chosen for this study were each used in an intervention with a specific child. The effectiveness of the intervention was then evaluated from the perspective of the teacher.

6.3 Experimental Study Approach

The study uses the following approach to evaluate each Social Story™ and its effectiveness in an intervention:

1. Introduce the participant
2. Identify the target behaviour and responses that need to be addressed by the use of the Social Story™
3. Describe the intervention setting
4. Describe the procedure and materials to be used during the intervention
5. Evaluate the Social Story™
    a. Using Gray's Social Story™ checklist
    b. Culturally

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      c.   Visually (part 1)

   6. Evaluate the effectiveness of the Social Story™ in the intervention for the child

      a.   Describe the actual intervention

      b.   Describe the results of the intervention (includes part 2 of the visual analysis)

The next section discusses the first case study undertaken in detail.

6.3.1 Case Study 1: Talking with friends at snack time.

Case Study Introduction

BB is a boy, aged six years and 11 months, who has been diagnosed with autism. He was experiencing difficulty in communicating with his peers. He only minimally initiated conversation or interaction with them and was often observed to be isolated. He also showed the ability to follow directions, take turns and stay on the task. He was in an integrated classroom for six to seven year-olds in the Riyadh school. This classroom had 10 children, one general education teacher, and two or three university work-study children as general assistants. A special education teacher and related service personnel provided consultation and direct support to the children and teachers in the classroom.

Talking *with friends at snack time* is a Social Story™ that was purchased from a shop in Riyadh by KK, a teacher who worked with children with ASD. This Social Story™ was used on BB (Please see Appendix D-1 for the Social Story™). KK indicated that the intent of the Social Story™ was to encourage BB to talk with his friends during snack time at school and to share his snacks with them. Due to BB's young age, it was anticipated that an intervention at this stage, before he had developed definite opinions or behavioural patterns of his own, would be beneficial and would have an impact on subsequent interactions. The following sections describe the target behaviour and definition of appropriate/inappropriate responses in the context of the first case study

Target behaviour and definition of appropriate/inappropriate responses.

The target behaviour identified for BB was to encourage him to interact with friends and other children during snack time at school, or to carry out a polite exchange by asking for more snacks or drinks. 'Appropriate' behaviours included initiating conversation or responding to others verbally, physically or through gestures during snack time, sharing

snacks with others and asking others for snacks. 'Inappropriate' behaviours included grabbing others' snacks and refusing to share snacks in a rude manner, such as pushing. 'No Interaction' behaviour included no response when being offered snacks and no response on being invited to participate in social interaction during snack time. The setting, materials and procedure of the intervention are described below.

Setting.

All intervention and observation sessions took place during snack time in BB's classroom during all phases of the study. This setting was chosen because it was related to the behaviour targeted for intervention. During snack time, children sat in groups of four to five around a table and were encouraged to chat and interact freely with each other. The children often shared their snacks.

The Social Story™ was read to BB while seated at an empty table that was placed on the side of the room just before the start of the target activity, snack time. The teacher was present during the activity to collect data.

Procedure.

The data gathering mechanism as described at the beginning of the section was followed. The 'inappropriate' notation for BB indicated, for example, that BB had refused to share his snack, whereas 'appropriate' behaviour was recorded if BB responded verbally during snack time. 'No interaction' was recorded if BB did not provide any response. The same A-B-A intervention design was implemented as in the other case studies.

At the beginning of the intervention, BB initiated interaction with KK but not with his peers and did not normally respond to conversational advances from them. He received KK's attention when KK spoke to him and received peer attention when he displayed the target behaviour and spoke to his peers. From the perspective of the intervention, anything from a single word to a group of phrases or sentences was considered to be some form of interaction. A new interaction was recorded when BB responded to a peer after not speaking for at least five seconds, spoke to another person, or paused to listen to his conversation partner. Examples of BB talking with his peers included saying "hello", using a peer's name to gain their attention, asking or answering questions, and asking for food. Responses such as nodding or shaking his head and talking to adults were not

recorded as talking with peers.

During the baseline (A) phase, BB was observed for 10 minutes in his classroom to evaluate the incidence of target behaviours. During the intervention (B) phase, the Social Story™ was read to BB just before the commencement of the target activity and period of observation. Alternatively, the Social Story™ was read before snack time began and verbal prompts were provided during the period of observation. During the reversal baseline phase (A), the Social Story™ was discontinued and BB was observed without receiving any kind of intervention from teachers.

Materials.

The Social Story™ was purchased by KK and was used in booklet form during the intervention. The story was typed in 14-point Times New Roman and contained one sentence per page. Each page included a simple colour visual illustrating the main point (a drawing of chips and juice).

The intent of the story was to introduce appropriate snack time behaviour to BB and described the following areas: (a) how to initiate interaction with a peer during snack time and (b) how to behave with other children in the snack time.

Evaluation of Social Story™ (talking with friends at snack time).

Evaluation using Gray's Social Story™ checklist

The construction of *Talking with friends at snack time* was evaluated using the Social Story™ checklist. The story was found to closely conform to the requirements of the checklist. Since BB was six years and 11 months old, however, it would have been more beneficial to introduce some opening statements to capture his attention as a form of behavioural 'scaffolding' (such as, "Hi, my name is BB"). Also, using pictures of BB and his actual peers at school time would have been more appropriate. Table 6.1 lists the points from the evaluation.

Table 6.1: Evaluation of Talking with friends at snack time using Gray's Social Story™ Checklist

Sl #	Checklist item	Parameter	"Talking with friends at snack time"
1	The story meaningfully shares social information with an overall patient and reassuring quality.	Content	The Social Story™ conforms to this requirement.
2	The story has an introduction that clearly identifies the topic, a body that adds detail, and a conclusion that reinforces and summarises the information.	Content	This Social Story™ conforms to this requirement, as it does have a clear introduction, body and conclusion.
3	The story provides answers to the relevant "wh" questions.	Content	The current story conforms to this requirement.
4	The story is written from a first (as though the child is describing the event) or third person (like a newspaper article) perspective.	Presentation	BB's Social Story™ is written in the first person perspective and conforms to requirements.
5	The story uses positive language, omitting descriptions or references to challenging behaviours in favour of identifying positive responses.	Presentation	The story conforms to this requirement.
6	The story comprises relevant or appropriate sentence types: descriptive, perspective, cooperative, directive, affirmative and control statements.	Structure	The current story conforms to this requirement.
7	The story follows the Social Story™ Formula: ratio of sentences that describe to sentences that direct >2:1.	Structure	The current story complies with the Social Story™ formula.
8	The story matches the ability and interests of the child, and is literally accurate.	Context	The Social Story™ conforms to this requirement.
9	If applicable, the story uses judiciously chosen pictures that are relevant for the child and augment the meaning of the text.	Presentation	Partial compliance as generic visuals are used in the story. Replacing these with actual photographs of BB, his peers and the school may help in increasing the effectiveness of the story.
10	The title of the story meets all applicable Social Stories™ criteria.	Content	The title complies with Social Story™ specifications.

Evaluation from a cultural perspective

The cultural evaluation of *Talking with friends at snack time* found that several of the visuals in the story were in partial or complete/direct contradiction to Saudi cultural and religious guidelines. Some examples include the dress code utilised, the snack foods represented, and so on. Table 6.2 list the points from the evaluation.

Table 6.2: Evaluation of Talking with friends at snack time using cultural checklist

Sl #	Checklist item	*Talking with friends at snack time*
1	Does the dress code used in the story comply with Saudi Arabian guidelines?	It is not clear if the pictures depict only boys, only girls, or a mixed group of boys and girls, as children of both sexes in BB's age group wear these types of clothes in Western countries. If the pictures depict boys, then there is a partial violation. This is because shorts, though appropriate for school boys in Saudi Arabia, should not be paired with sleeveless t-shirts. This, however, would be a clear violation if the pictures were depicting girls as girls are required to wear a head scarf in compliance with the Saudi dress code. Also, shorts and t-shirts would be inappropriate since girls are required to be fully covered.
2	Is any interaction between the genders depicted?	It is not clear if the pictures used in the story are of mixed groups of boys and girls.
3	Are non-halal food items represented in the illustrations or referred to in the sentences of the story?	The first two visuals seem to contain pictures of salami, which is typically made of pork and is forbidden for consumption by Muslims, and hence are inappropriate.
4	Are any non-Islamic gestures (such as, thumbs up, OK sign) used in the illustrations?	No
5	Is the left hand being used to present or receive food or other items?	Yes, the second visual appears to have one child holding a food item with the left hand.

6	Are the "wh" questions answered without violating the cultural requirements?	Yes
7	Are the facts presented in the story accurate from a Saudi perspective?	Partially. Visuals of the everyday food used in Saudi schools would help BB recognise the food and express his feelings. They would also make snack time more enjoyable, since BB would know what to expect.
8	Are the illustrations used in the story in accordance with cultural requirements?	No. Pictures that clearly represent boys at snack time would be more appropriate.

The visual analysis of Social Story™ *Talking with friends at snack time* is presented next.

Visual analysis

Table 6.3 depicts the first stage of the visual analysis for *Talking with friends at snack time*.

Social Story™: "Talking with friends at snack time"	Visual analysis
Figure 6.1: We have snack time at school.	Type of statement: Descriptive. *This statement describes the setting of the Social Story™.* Saudi context: *Possible violations. 1. The visual appears to contain salami as one of the snacks. This could be replaced with a more suitable illustration, perhaps one that contains a type of snack that BB consumes regularly. 2. Left hand used to handle food. 3. It is not clear if the picture is of only boys, only girls, or a mixed group. In any case, the use of sleeveless t-shirts in the Social Story™ representation would be a non-compliance with the Saudi dress code.*

Social Story™: "Talking with friends at snack time"	Visual analysis
  Figure 6.2: Friends talk and share at snack time!	Type of statement: Descriptive. *This statement describes the activities at snack time.* Saudi context: *1. This visual appears to convey the action of sharing salami (a snack) between friends. Salami is an inappropriate food as it may contain pork, hence it is prohibited. Further, this visual could be broken down into two separate activities of talking and sharing as the child is very young; this would make it easier for the child to comprehend. 2. Dress code.*
  Figure 6.3: Some friends say "Hi!"	Type of statement: Descriptive. *This statement describes the activities of other children at snack time.* Saudi context: *Dress code violation*
  Figure 6.4: Some friends ask for a drink	Type of statement: Descriptive. *This statement describes the activities of other children at snack time.* Saudi context: *Dress code violation*

Social Story™: "Talking with friends at snack time"	Visual analysis
Figure 6.5: Some friends ask for more snacks.	Type of statement: Descriptive. *This statement describes the activities of other children at snack time.* Saudi context: *Dress code violation*
Figure 6.6: I can say "Hi" to my	Type of statement: Directive. *This statement describes what BB can do at snack time to interact with his peers.* Saudi context: *Dress code violation*
Figure 6.7: I can ask for more snacks.	Type of statement: *Directive*. *This statement describes what BB can do at snack time.* Saudi context: *Dress code violation*
Figure 6.8: Friends are happy when we talk at snack time!	Type of statement: Descriptive and perspective. *These statements describe the feelings of both BB and his friends when appropriate snack time behaviour is demonstrated.* Saudi context: *1. No violation, if the picture is of two boys or two girls, as holding of hands is allowed between males. If this picture is of a boy and a girl, however, it is a clear violation. 2. Dress code violation*

Evaluation Summary

The construction of the Social Story™ conforms to the guidelines provided by Gray's checklist. It can be further strengthened through minor modification. The introduction of an opening statement, such as "My name is BB", would have helped the child identify that the story is for him. Choosing more appropriate pictures of snacks (from a Saudi/Muslim perspective) and clothing for the children represented in the visuals would also make the story more culturally acceptable. Also, it would help to make clear whether the pictures being used are of girls or boys. Finally, replacing the generic visuals with actual photographs of BB, his peers and the school setting would help him feel more connected with the Social Story™ and therefore increase its impact in teaching appropriate behaviour.

The intervention using *Talking with friends at snack time* is presented next from the teacher's perspective.

Effectiveness of the Social Story™ for developing the snack time interaction skill.

Intervention.

Baseline and intervention procedures (Phases A and B)

During the baseline phase (A), BB's teacher continued with regular instruction and other behaviour management procedures that he typically employed for BB. These strategies had already been proven ineffective in appropriately modifying BB's behaviour at snack time. During baseline observation sessions, the teacher (KK) was seated about 1.5 m away from BB and recorded data on a clipboard. KK did not interact with BB during these sessions. The classrooms in the school were typically busy and the presence of unfamiliar adults in the room was a common occurrence. As a result, BB did not find the presence of an observer unusual and did not pay much attention to KK. Phase A was conducted over a period of 14 sessions.

A training session was conducted for BB on the first day of the intervention phase (B). The teacher introduced the Social Story™ to BB. The teacher then said, "I have a story for you. Let's read it together!" BB and the teacher then went over to a quiet table where they sat facing each other. The Social Story™ booklet was placed in front of BB and read to him by KK. After reading the Social Story™ once and with the booklet kept open in

front of him, BB was asked three comprehension questions, for example "What is the rule for hands and feet during snack time?" and "Point to how to ask for a drink." BB then responded and answered the questions accurately, either verbally or by pointing. After the story was completed, BB was told that the story was over and was guided back to the snack table. The observation session began once BB had sat down at the table.

For all subsequent sessions during the intervention phase, KK arrived five minutes before snack time and invited BB to come and read the story. As soon as the story was completed, a verbal instruction was given to join the activity (for example, "It's time for snacks!") The observation session started after BB went to the snack table. Three intervention sessions were conducted per week, on average. A total of 15 sessions were conducted.

Reversal baseline (A)

As KK mentioned that no training (no Social Story™) was provided to BB. Data gathering in the reversal baseline phase was conducted 15 sessions. The next section presents the results of the intervention.

Results

It was observed during the baseline phase that BB never asked his teacher or peers for additional snacks. After the intervention, he displayed more proactive behaviour both with and without verbal prompts. He requested snacks from his friends and was willing to share his snacks with others. BB also showed generalisation of behaviour from the increased interaction with his peers and would invite his friends to sit down with him. Before the intervention, he would isolate himself from them.

Baseline phase (14 sessions): During this phase, BB achieved an average of 0.42 occurrences of 'appropriate' behaviour, 2.21 occurrences of 'inappropriate' behaviour, and 3.5 occurrences of 'no interaction.

Intervention phase (15 sessions): BB achieved 2.73 occurrences of 'appropriate' behaviour, 0.87 occurrences of 'inappropriate' behaviour, and 0.73 occurrences of 'no interaction'.

Reversal baseline (15 sessions): The data collected for 'appropriate' behaviour was 2.4 occurrences, 'inappropriate' behaviour was 0.4 occurrences and 'no interaction' was 0.73

occurrences.

From the findings of the observation in the three phases, BB had improved in 'appropriate' behaviour by 1.97 occurrences. 'Inappropriate' behaviour was reduced by 1.81 occurrences and the number of 'no interactions' decreased by 2.77 occurrences.

Figure 5.20 shows the graph of BB's appropriate, 'inappropriate' and 'no interaction' behaviour during the baseline, intervention and reversal baseline phases. It was observed, from the visual analysis of the graph, that there was an overall decrease in 'inappropriate' behaviour and an increase in 'appropriate' behaviour during the intervention phase (from session 15). A marginal decrease in 'appropriate' behaviour was observed in the reverse baseline phase (from session 30). The number of interactions increased from the baseline to the intervention phase and remained consistent between the intervention and reversal baseline phases.

Figure 6.9: BB's behavioural changes

S (Talking with friends at snack time)

Frequency of interaction

	A1	2	3	4	5	6	7	8	9	10	11	12	13	14	B15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	A30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
Appropriate	0	0	1	0	0	0	1	0	2	0	1	0	0	1	1	2	2	3	2	3	2	2	3	4	3	2	4	5	3	2	1	2	2	3	4	2	2	3	2	4	2	2	3	2
Inappropriate	1	2	2	1	3	3	1	3	2	1	3	2	3	4	0	1	0	2	0	2	1	2	1	0	1	2	0	0	1	0	1	1	0	0	1	0	0	1	0	1	0	0	1	0
No Interaction	3	2	3	4	3	3	4	4	4	5	4	3	4	3	1	0	2	1	0	2	1	0	1	1	1	0	0	1	0	1	0	1	0	2	0	2	1	0	1	0	1	0	1	1

After the completion of the three phases, KK reported that he was impressed by the change in BB's behaviour over the duration of the intervention. Since BB's lack of social interaction before the intervention had not disrupted classroom or snack time interaction between the teacher and other children, however, it was difficult to determine whether the Social Story™ had independently contributed to the change in behaviour. The teacher felt that BB's ability to follow instructions, take turns and stay on task were more likely to be the motivating factors for the success of the intervention. Upon being asked if there were any changes he would recommend for the future use of Social Stories™ with children with ASD like BB, KK suggested that the use of Social Stories™ be prepared by the target child's teacher and that Social Stories™ use real photographs of the child instead of

drawings or cartoons to enhance his or her connection to the story.

Case study conclusion

Social Stories™ are a natural fit into the early childhood curriculum, since young children listen and respond to stories throughout the day when they attend school during their formative years. The Social Story™ written for BB highlights the effectiveness of their use in positively reinforcing appropriate behaviour amongst children with ASD. While the Social Story™ used in this study could have been improved, by introducing an opening statement such as "My name is BB", replacing the generic visuals with actual photographs of BB, his peers and the school and by being evaluated for cultural context, the outcome of using it demonstrated that Social Stories™ can be used to maintain appropriate behaviour.

The story used in this study could be construed as violating the dress code and food-related restrictions in Saudi society due to the presence of ambiguous representations of children (it is not clear whether boys or girls or both are pictured), sleeveless t-shirts, what appears to be a picture of salami, a dried sausage which is usually made of pork meat. It can be concluded, therefore, that it is recommended that custom-made Social Stories™ tailored to the interests and needs of a particular child and his/her cultural context be developed, in order to avoid violations that could cause the Social Story™ to confuse the child. It must also be noted that Social Stories™ as a stand-alone intervention, however, may not be robust enough to influence significant behaviour changes in a child. The existence of strong motivators or the child's inherent abilities often produce changes which can be wrongly attributed to the Social Story™. The second case study, presented next, is that of a child with ASD (M) who had difficulty playing with his friends.

6.3.2 Case Study 2: Playing with friends.

Case study introduction

M is an 8-year-old boy attending an inclusive classroom for eight and nine year-olds in a Riyadh school. He had attended the school for two years and had been diagnosed with high-functioning autism. M demonstrated robust, meaningful, verbal skills during classroom sessions and possessed a well-developed vocabulary.

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M appeared to prefer to talk with adults and was able have long discussions on subjects that interested him, such as dinosaurs and aeroplanes. On the other hand, his responsive verbal skills seemed to be rather lower than his expressive skills and he demonstrated typical challenges in maintaining conversations (for example, walking away when a conversation was in progress, not responding when called by his name) and modulation, clarity, and volume in his speech. He avoided talking to peers in the classroom and preferred to spend time talking to his teacher (F) or following him around. He displayed a great interest in books, especially brightly illustrated reference books, and had developed some reading skills; he was aware of text and the direction in which to read it. He could also recognise some high frequency sight words like 'I', 'my', 'boy', and his own name. M's class had recently started using computers in their classwork and F observed that M was showing a healthy curiosity and enthusiasm around this.

M's behaviour during playtime, however, was erratic. He often walked away during ongoing conversations and did not respond when called. It was evident that M required support as F observed unpredictable behaviour in unstructured play, such as refusing to share toys or grabbing toys from others. He would also refuse to be corrected by grown-ups. M's behaviour, though not unique, showed that no interventions were followed at home, while speech and language exercises were diligently followed at school.

The Social Story™ used in the case study concerned M's verbal skills and behaviour during play. The observation was conducted by F at a play centre at school using a Social Story™ that he had written, titled *Playing with Friends* (Appendix D-2). The objective of using the Social Story™ was to increase M's independence by directing his actions and describing the behaviour he should use when playing in the play centre. I evaluated the Social Story™ to assess its congruence with the criteria set by Gray and Garand (2004), and for its appropriateness in the context of Saudi culture. It is worth mentioning here that F was of Saudi origin and hence familiar with the cultural environment in Saudi Arabia. I decided, however, to proceed with culturally evaluating the Social Story™ to assess if F had included any items that could be culturally misconstrued. Moreover, I interviewed F to understand how he evaluated its effectiveness in developing M's play behaviour. The following section describes the target behaviour and the definition of appropriate/inappropriate responses in the context of the first case study.

Target behaviour and definition of appropriate/inappropriate responses.

F revealed that the objective of the Social Story™ was to substitute inappropriate play behaviour with appropriate play behaviour during play time with peers in the school play centre. While playing, M was required to collaborate and share play resources with two or three other children. During these sessions, M typically exhibited higher levels of inappropriate play behaviour as compared to appropriate behaviour. Examples of appropriate play behaviour included requesting the use of resources, cooperating with peers by sharing and using resources, and passing suitable remarks (for example, praise and comments) about another child's activities. Furthermore, appropriate play behaviour included distinct behaviours (for example, giving a ball to a peer), series of behaviours (for example, assembling a train track along with a peer), tapping lightly to attract notice, chatting with peers and giggling and hugging. In contrast, responses noted as inappropriate play included refusal to share resources and exiting the play centre, punching, snatching items, biting, kicking, screaming and shoving. Both behaviours were monitored and logged by F. He observed that he seemed to pay greater negative attention to M when M used inappropriate behaviour to try to draw the attention of his peers. He also reported that he demonstrated a lower amount of negative attention and higher affirmation when M exhibited appropriate behaviour. M's peers also demonstrated affirmative attention in this case.

The setting, procedure and materials of the intervention are described next.

Setting.

The school play centre was used as the setting for the Social Story™ intervention sessions for M. The computers set in the corner of the play centre were used to show the Social Story™. Computers were chosen as the appropriate medium to encourage M's participation due to his observed interest in them and his curiosity and eagerness to use them. Interventions occurred during 'play time', an organised session in which groups of four to five children played academic and physical games.

Procedure.

The data gathering mechanism as described at the beginning of the chapter was followed. The 'Inappropriate' notation for M indicated, for instance, a refusal to share resources. On

the other hand, 'Appropriate' was recorded if M requested the use of resources. 'No Interaction' was recorded if M did not provide a response of any kind.

F used an A-B-A intervention design to measure the effectiveness of the Social Story™ for M and revealed that the data would be collected in three stages to measure the effectiveness of the Social Story™ in improving M's "playing with friends" skills; these were: baseline (A), intervention (B), and reverse baseline (A). The observations were conducted once a day, prior to the first play period of the day on which an observation was being carried out. The observations, however, were not conducted daily. Each observation session lasted for up to 10 minutes during which the data was collected. Data for each behaviour category was recorded as soon as that behavioural category occurred during a session, by marking an "I" in the appropriate column of the data collection sheet.

Materials.

The Social Story™ created by F was used in the intervention. Taking into consideration the facilities available at the school, the Social Story™ was designed using Microsoft PowerPoint (with manual progression through the slide show) and displayed using the play centre computers.

Evaluation of the Social Story™ (*Playing with friends*)

The Social Story™ was evaluated using Gray's Social Stories™ checklist and also from the perspective of its appropriateness in the context of Saudi culture.

Evaluation using Gray's Social Story™ checklist

The construction of the Social Story™, *Playing with Friends,* was first evaluated using the Social Story™ checklist. It was observed that the story could be improved structurally by expanding it so that it had a more complete flow. The Social Story™ checklist suggests the use of carefully selected visuals that improve the meaning of the text and are, therefore, meaningful for the child (item 9). While visuals were used in the current story, additional visuals describing basic activities/cues/appropriate play behaviour with supporting statements could help improve the story, as these would provide further insights into the behaviour that a child could expect during play time. There were pictures of the play centre and a group of children, but there were no pictures which indicated appropriate play behaviour, such as pictures of the child sharing toys or sitting or standing in an orderly

manner. Moreover, there were no sentences which offered instructions on how to play. Furthermore, for completeness and potential re-use, the inclusion of statements which model appropriate or successful cues, for example, "My friends would not like it if I pushed them during play", "I am playing nicely when I share my toys" and basic activities like "We play in the play centre after every period", and "My teacher takes me and my friends to the play centre" would have been beneficial. (The details of the evaluations using Gray's checklist for *Playing with friends* can be found in Appendix I.)

The story will next be evaluated from a cultural perspective.

Evaluation from a cultural perspective

The story in its current form appeared suitable for use in the Saudi Arabian context, as the dress code depicted in the story's images were appropriate for the setting in a boys' school. Moreover, no interaction between the genders was represented. The pictures and text did not make any references to non-halal food, non-Islamic gestures, or the use of the left hand. Furthermore, details of the setting, occasion, other participants, prompts, responses, and motivation, were compliant with Saudi culture and factually accurate. In the case of any proposed modifications, however, I recommend that any additional material should also be evaluated in the cultural context prior to inclusion. Care must be exercised to ensure that no visuals or symbols, such as toys in the shape of human hands or religious symbols of other faiths (crosses, six-pointed star), which contravene Saudi culture, are included in the visuals, and that t-shirts do not contain any slogans or captions that are anti-Islamic in nature. Also, care should be exercised that segregation between the sexes is strictly considered, that the female dress code is observed, and that no hand gestures that disrespect Saudi culture are included. (The details of the evaluations using cultural checklist for Playing with friends can be found in Appendix J.)

The visual analysis of P*laying with Friends* is presented next.

Visual analysis.

Table 6.4 depicts the first stage of the visual analysis, that is, the visual evaluation of the Social Story™.

Table 6.3: Visual Evaluation of Playing with Friends

Social Story™ "Playing with Friends"	Visual analysis
Figure 6.10: My name is M.	<u>Type of statement: Descriptive</u>. *This statement introduces the child* <u>Saudi context</u>*: No violation*
Figure 6.11: At school, I may do a lot of things. We have a play	<u>Type of statement: Descriptive.</u> *These statements describe the setting of the Social Story™.* <u>Saudi context:</u> *No violation*
Figure 6.12: My friends and I can play together at the play centre.	<u>Type of statement: Descriptive.</u> *This statement describes the activity at the play centre. A few more statements and visuals could also be included to indicate the various situations that may be encountered in the play centre.* *As highlighted in the literature review, a child with ASD may be able to recognise a situation in which a specific behaviour must be exhibited and respond appropriately, however, the extent to which this behaviour can be generalised depends on the child. This is why including a little more detail to the story may be beneficial. For instance, modifying the current sentence could help the teacher introduce M to the fact that he may encounter one or more friends or be part of a group in the play centre. Suggested additions:* Sometimes I may play with one friend. (Accompanied by a picture of M playing with one friend) Sometimes I may play alone. (Accompanied by a picture of M playing alone)

	It must also be noted that these additions to the story may be of little or no benefit as it could also cause M to understand that the one friend is always going to be the same person. Saudi context: *No violation*
  Figure 6.13: Sometimes we use toys together. I share my toys with my friends.	Type of statement: Descriptive. *These statements recognise the fact that there will be toys in the play centre and the sharing of toys may be required. The inclusion of a few more statements and visuals explaining the procedure to take and use a toy, to share a toy, or to borrow a toy from another child may be also recommended.* Saudi context: *No violation*
  Figure 6.14: I am happy to play with my friends. My friends like me when I play with them at the play centre!	Type of statement: Descriptive and perspective. *These statements describe the feelings of both M and his friends when appropriate play behaviour is demonstrated.* Saudi context: *No violation*

Evaluation Summary.

From the various evaluations of *Playing with Friends* it can be observed that the Social Story™ created by F requires modification from a structural, content and presentation perspective to conform to the requirements specified by Gray. In its current form, it appears suitable for use within the cultural context in Saudi Arabia. The visual analysis revealed some gaps which can be addressed by the inclusion of additional content to provide further details to the child about the different activities in the play area.

Following my analysis of the content of the Social Story™ the story will be evaluated

below in terms of its effectiveness in developing the desired social skills from the teacher's perspective.

Effectiveness of the Social Story™ for developing the skills to play with friends

Intervention.

Baseline and intervention procedures (Phases A and B)

In the baseline phase (A), M's preliminary state was observed over 15 data collection sessions, spread across five weeks, in the play centre. M engaged in 10 minutes of play activity per session and was studied either from close proximity or through direct interaction, while being involved in his daily playing activities at school. During this phase, care was taken not to make any interventions around behaviour; inappropriate behaviour was not rectified, nor was appropriate behaviour prompted.

'Appropriate', 'inappropriate', and 'no interaction' behaviours were logged on the data collection sheet as soon as they occurred. The collected data was processed without delay using visual analysis graphs (see Results) within 48 hours of the data collection. F moved into the intervention phase (B) once the 15 sessions had been completed.

The intervention phase (B) followed the baseline phase, during which M listened to the Social Story™, which was read to him before play time. F notified M that it was time to read his story. M was then asked to sit at the computer, and the PowerPoint presentation was started. M was asked to read the story either out loud or silently, or together with the teacher (for example, taking turns to read sentences). F also revealed that if M had opted to read the story out loud, he kept track and made sure that every sentence was read correctly. In other words, if M skipped words, made mistakes in reading, or was sloppy, F would prompt M to repeat the sentence. M was permitted to use the computer interfaces (for example, mouse or keyboard) to progress through the presentation. If M 'skipped' a slide, F would prompt him to return to it. After finishing the Social Story™, F asked two or three questions in order to understand how much M had comprehended from the Social Story™. Some of these confirmatory questions included: "What did the story refer to?" "What do other people expect you to do?", "What do you need to do when 'X' asks you for a toy?" If a question was answered correctly, F moved into the exploratory phase, testing M's depth of understanding of that aspect of the story. F also provided constructive

support in the form of praise and proceeded to the next question. On the other hand, if M responded inaccurately or did not make an effort to respond, F motivated M to review the sentence(s) in the story that were linked to the question. After M had finished reading the section once again, F repeated the expected responses and progressed to the next question. On completing the question and answer session, F conveyed an oral instruction or prompt to enter the next activity (for example, "It is time to play!"). F remarked that observation started only after the activity commenced. Three intervention sessions per week were conducted on average over a period of five weeks. In the intervention phase, data collection was planned to take place over 10 to 16 sessions (within the five-week period), depending on M's attendance and the consistency of data.

Reversal baseline.

F used the Social Story™ intervention as a limited period intervention. He had planned to stop the intervention either when the data that was collected had stabilised or when 16 sessions had been completed, whichever was earlier. In M's case, the intervention had to continue for the 16 sessions. The reversal baseline phase (A) began immediately after the end of the intervention phase (B) and was conducted over a further 21 sessions. F mentioned that the reversal baseline procedure was the same as that of the baseline procedure, wherein no correction or attempted correction of M's behaviour was made. He also indicated that the intent of the reversal baseline phase was to assess the level of M's short-term skill maintenance in the period after the Social Story™ intervention had been completed. This phase could, therefore, also be designated the post-intervention phase. The results of the intervention are presented in the next section.

Results.

F used Microsoft Excel to analyse the data of M's behaviour collected during all the intervention phases. An average of the data collected from different sessions was calculated to analyse the pattern of behavioural changes using 'appropriate', 'inappropriate' and 'no interaction' labels. This yielded the average number of interactions per 10-minute session. The outcomes/degrees of the behavioural changes during each stage were plotted on a graph, using Microsoft Excel for visual analysis. In addition, the complete data of the behavioural changes was also tabulated and plotted by merging all of M's data. F measured the effectiveness of the Social Story™ by comparing the average (mean) number of occurrences for the social behaviour (appropriate,

inappropriate and no interaction) in each of the phases (baseline, intervention and reverse baseline). The average (mean) number of social behaviour occurrences was obtained by totalling the number of occurrences for the phase and dividing it by the number of sessions in the phase. This was because M had a different number of sessions for each phase (15 in baseline, 16 in intervention, and 21 in reverse baseline).

Baseline phase (15 sessions): M achieved an average of 0.27 occurrences of appropriate behaviour. In other words, in the 15 sessions of the baseline phase, only four instances of 'appropriate' behaviour were observed. Furthermore, M achieved an average of 2.0 occurrences of 'inappropriate' behaviour (30 instances in total) and 3.4 occurrences of 'no interaction' using a similar calculation (51 instances in total).

Intervention phase (16 sessions): There was a significant improvement in the target behaviour with 2.69 occurrences of 'appropriate' behaviour being noted. 'Inappropriate' behaviour was reduced to 0.9 occurrences, whereas instances of 'no interaction' fell to 1.12 occurrences.

Reverse baseline (21 sessions): A slight decrease in 'appropriate' behaviour was observed during the reverse baseline phase, with an average of 2.38 occurrences, while 'inappropriate' behaviour was 0.38 occurrences and 'no interaction' was 0.57 occurrences.

Figure 6.15 shows the graph of M's appropriate, inappropriate and no interaction behaviour during the baseline, intervention and reverse baseline phases. The visual analysis of the graph revealed that there was an overall decrease in 'inappropriate behaviour' and an increase in 'appropriate behaviour' from session 18 of the intervention phase. A marginal decrease was observed from session 33 in the reverse baseline phase.

Figure 6.15: M's behavioural changes
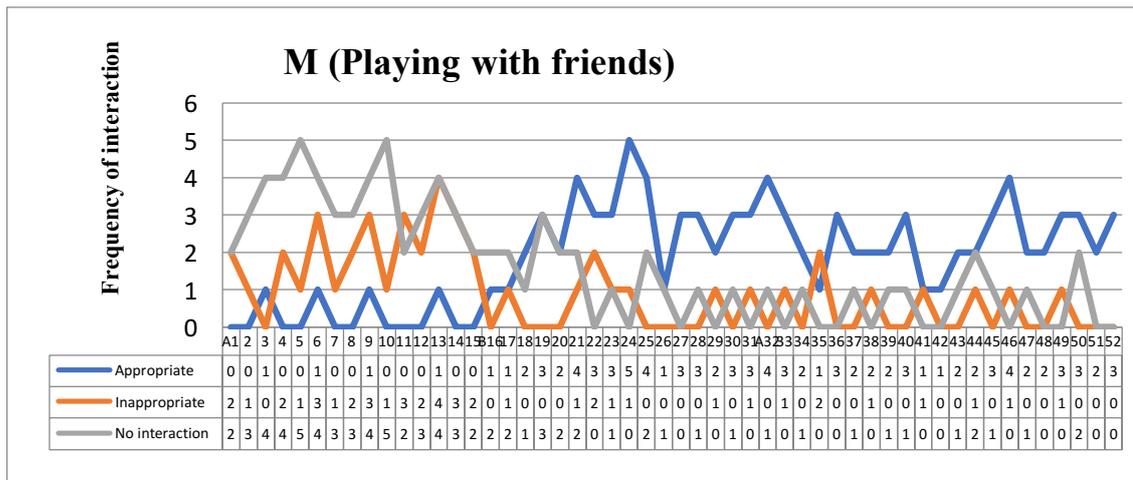
M (Playing with friends)

Frequency of interaction

	A1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	B16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	A32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
Appropriate	0	0	1	0	0	1	0	0	1	0	0	0	1	0	0	1	1	2	3	2	4	3	3	5	4	1	3	3	2	3	3	4	3	2	1	3	2	2	2	3	1	1	2	2	3	4	2	2	3	3	2	3
Inappropriate	2	1	0	2	1	3	1	2	3	1	3	2	4	3	2	0	1	0	0	0	1	2	1	1	0	0	0	0	1	0	1	0	1	0	2	0	0	1	0	0	1	0	0	1	0	1	0	0	1	0	0	0
No interaction	2	3	4	4	5	4	3	3	4	5	2	3	4	3	2	2	2	1	3	2	2	0	1	0	2	1	0	1	0	1	0	1	0	1	0	0	1	0	1	1	0	0	1	2	1	0	1	0	0	2	0	0

From the findings in the three phases, it was observed that M had made considerable overall improvement in achieving the target behaviour. This was demonstrated by the increase of 2.11 occurrences of appropriate behaviour, the diminishing of inappropriate behaviour by 1.6 occurrences, and the increase in the number of interactions by 2.8 occurrences.

After the end of the intervention, M's progress held the attention of F, who formed a positive opinion of the impact of the Social Story™ intervention on M's behaviour. He reported that M's behaviour had become more 'appropriate' not only for the targeted intervention but also in the case of untargeted behaviour, suggesting that F believed that generalisation of behaviour may have occurred in other situations. According to F, using photographs of M during the intervention helped to reinforce the link between M and the story.

Case study conclusion

The Social Story™ written for M appears to have been an effective factor in bringing about a positive change in motivating 'appropriate behaviour' in a child with ASD. Although I believe that the structure of the Social Story™ used in this study could have been improved through the introduction of a clearer narrative structure and conclusion, the use of additional visuals with matching statements to describe basic activities, cues, or the specifics of appropriate play behaviour. The results of using the story with M showed that a Social Story™ could be used for the motivation and achievement of this behaviour. Furthermore, the Social Story™ was fairly generic, hence it could be used in

a Saudi Arabian setting without modification to the visuals or text. Issues arising from this case study were how to assess what components were vital for effective implementation of a Social Story™, and when or how to use Social Stories™ as an integral part of a wider intervention.

The third case study, presented next, is that of a child with ASD (AA) who had difficulty with greeting behaviour during school day interactions with peers.

6.3.3 Case Study 3: How to greet someone at school.

Case study introduction

AA was a Caucasian male aged 12 years and four months who had an educational diagnosis of autism. In other words, he was deemed eligible for special education services after taking into consideration his definite capabilities and shortcomings in areas related to schooling. His communication and interaction skills and cognitive and learning skills were assessed. He possessed a robust grasp of language and could take part in simple discussions, but appeared to be reluctant to do so. His interactions with peers were typically appropriate, but he reportedly shunned interaction with grown-ups. AA's classroom had 10 children and general lessons were conducted for all children by the teacher. AA, however, received further support from an assistant teacher. A replacement teacher instructed the class on one day of each week. AA was observed by the teacher to avoid greeting or acknowledging teachers or other grown-ups at school. AA was even observed to turn and move away on several occasions to avoid acknowledging a teacher. AA's teacher considered that it was both suitable and necessary for AA to acquire the skills of greeting and addressing known peers and grown-ups at school in order to improve his socialisation and communication skills.

The Social Story™ How *to greet someone at school* was developed for use with children with ASD, such as AA (Please see Appendix D-3 for the Social Story™). The goal of the Social Story™ was to help AA pick up the necessary skills to respond to salutations such as "Hello", "May Allah's peace, mercy and blessing be upon you" and "Goodbye", and also to assist him with learning to respond to teachers and peers in using tacit or unspoken methods of communication. Again, I decided to proceed with the cultural evaluation of the Social Story™, although it was developed in a school in Saudi Arabia, to assess if the school had overlooked any item that could be culturally misconstrued. AA's teacher

customised the story to include pictures of AA accompanied by peers or teachers in a school setting, as appropriate. The following sections describe the target behaviour and definition of appropriate/inappropriate responses in the context of the second case study.

Target behaviour and definition of appropriate/inappropriate responses.

AA's teacher indicated that the goal of the Social Story™ intervention was to substitute inappropriate greeting behaviour with appropriate greeting behaviour during school day interactions with peers and grown-ups. Examples of appropriate behaviour included greeting peers and grown-ups using greetings such as "Good Morning" or "How are you". Inappropriate behaviour included passing someone without greeting or acknowledging them, not responding to a greeting, looking away when greeting someone, or turning and walking away to avoid someone. The target behaviour required that AA greet or acknowledge peers and/or grown-ups when he met them for the first time during the school day. The setting, procedure, and materials of the intervention are described below.

Setting.

AA's classroom was used as the primary setting for the intervention. The intervention was conducted during lesson breaks. A separate room was used if other children continued to have lessons in the classroom. AA was asked to sit at a table with the trainer. An independent observer was also included in some of the sessions to collect reliable data. Sessions were conducted two to three times a week, with one session taking place per day.

Procedure.

The data gathering mechanism described at the beginning of the chapter was followed. The 'Inappropriate' notation indicated that AA gave a simple greeting such as "Hi" or "Hello" whereas the 'Appropriate' notation was recorded if AA gave a more complex greeting such as "Hello, how are you?". A notation of 'No Interaction' was recorded if AA did not initiate any greeting.

AA's teacher conducted 45 data collection sessions across the three phases at different places of the school such as the designated special education classrooms and the passage and open area. Again, an A-B-A design was used for the intervention with baseline (A), intervention (B) and reverse baseline (A) phases. Each phase was conducted over a period of four weeks and the overall intervention extended over three months.

Materials.

The Social Story™ created by the school (in PowerPoint format) was used. It was evaluated by two of the teaching staff who had prior knowledge of implementing Social Story™ interventions at AA's school and who had used this particular Social Story™ in interventions at two other public schools in Riyadh. The intent of the story was to introduce and explain spoken greetings to AA in the following areas: (a) when to greet someone, (b) suitable words to use in verbal greetings for grown-ups and peers at school, (c) how to initiate verbal greetings, and (d) what the expected outcomes of greetings might be.

The story was presented to AA using the computer in the classroom. AA's teacher revealed that AA had refused to watch the Social Story™ on the classroom computer after three sessions, so it was instead shown on an iPad® because he seemed to be fascinated with the device. The story depicted the social conventions of people greeting each other at school. Each PowerPoint slide was designed to show a simple visual accompanied by a brief paragraph. Comprehension questions, such as (a) "What is done when people first see each other?" and (b) "What can I say to greet grown-ups at school?" were asked at the end of the story to evaluate AA's levels of concentration and understanding.

Evaluation of Social Story™ (*How to greet someone at school*).

This Social Story™ was evaluated using Gray's checklist and, also, from a cultural perspective. It must be noted that though AA is of Caucasian origin, the fact that he resides in Saudi Arabia requires him to conform to the social conventions followed by Saudi citizens.

Evaluation using Gray's Social Story™ checklist

The construction of the Social Story™ *How to greet someone at school* was evaluated using Gray's Social Story™ checklist and it was found that the structure of the story could be improved by making some minor changes. For instance, the introduction of a conclusion to the story by the means of one to two additional visuals with matching statements such as "When I say 'hi' or 'good-bye' to someone, it makes them happy", "People like to feel happy", "When people are happy, I feel happy too". This would explain the rationale of the story and thereby make it more effective. Adding a few more

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statements to the existing visuals to help AA identify the time of day or location of an interaction could further help him to greet others or to respond appropriately to greetings directed at him. (Further details of the evaluations using Gray's checklist for *How to greet someone at school* can be found in Appendix K.)

How to greet someone at school will next be evaluated from a cultural perspective.

Evaluation from a cultural perspective

Foreigners residing in Saudi Arabia are expected to conform to Saudi rules and traditions in all domains of public life. AA's Social Story™ does not appear to deviate from any of these norms. As with Case Study 1, if modifications or extensions are proposed to the story, it is recommended that the modified or supporting material also be evaluated in the cultural context prior to being included.

A key feature of a child with ASD is his/her inability to decode social cues correctly (Wing, 1998). For example, the signals and terminologies that are fundamental to social dialogue often cause confusion in a child with ASD (Frith, 1989), and hence result in difficulty for the child when engaging in common social exchanges (Watts, 2008). In a situation where a single culture is at work, a child can more easily be guided into certain behaviours as there are no cultural differences between the environments at home and in other social or public gatherings. In cases such as AA's, however, where the social atmosphere at home would in all likelihood be different from the atmosphere at school or in public, there is a higher probability of an autistic child getting confused and reverting to non-appropriate behaviour. Teachers or other developers of Social Stories™ should therefore take the origins and background into consideration prior to selecting a story for use with the child with ASD. (Further details of the evaluations using the cultural checklist for How to greet someone at school can be found in Appendix L.)

The visual analysis for "How *to greet someone at school*" is presented in the next section.

Visual analysis.

Table 6.5 depicts the first stage of the visual analysis for "*How to greet someone at school*".

Social Story™ *How to greet someone at school*	Visual analysis
  Figure 6.16: There are many ways to greet someone at school.	<u>Type of statement: Descriptive.</u> *This statement directly introduces behaviour targeted by the Social Story™ intervention. It is appropriate for the current context (for use with AA) because AA may not need to be guided into the behaviour as would be required for a younger child. A preliminary visual/statement introducing AA can be used but is not strictly required.* <u>Saudi context</u>: *No violation*
  Figure 6.17: In the morning, I will try to say 'Good Morning' to someone.	<u>Type of statement: Directive.</u> *This statement identifies the suggested response for a given situation—what AA must do when he meets someone in the morning—AA must try and say "Good Morning" to that person.* <u>Saudi context</u>: *No violation*

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  Figure 6.18: When I see my friends or staff at school, I will try to smile and say 'May Allah's peace, mercy and blessing be upon you'.	<u>Type of statement</u>: <u>Directive</u>. *This statement identifies the suggested response for a generic school situation—what AA must do when he meets someone (staff or friend) during the school day—AA must try to smile and say "May Allah's peace…" to that person.* <u>Saudi context</u>: *No violation*
  Figure 6.19: They may say 'and you have peace and mercy of Allah' back to me	<u>Type of statement</u>: <u>Directive</u>. *This statement identifies the response to a greeting—what someone may say to AA when he greets them.* <u>Saudi context</u>: *No violation*
  Figure 6.20: I can ask someone 'How are you today?' They may stop to talk with me.	<u>Type of statement</u>: <u>Directive</u>. *The first statement identifies another suggested response for a generic school situation—another greeting for AA to use when he meets someone during the school day. The second suggests that the person greeted by AA may stop and talk to AA.* <u>Saudi context</u>: *No violation*
  Figure 6.21: At dismissal time, I will try to say 'Good-bye' or 'See you tomorrow'.	<u>Type of statement</u>: <u>Directive</u>. *This statement identifies the greeting AA can use at the end of the school day. He can say 'Good-bye' or 'See you tomorrow'.* <u>Saudi context</u>: *No violation*

Evaluation summary.

The construction of the Social Story™ requires some minor changes, as described in the evaluation. The addition of a clear conclusion and some statements that will help deepen the response to the interrogative 'why' behind the Social Story™ would be helpful. Since the target child was a pre-teen, however, it is not anticipated that these would influence the effectiveness of the Social Story™.

Additionally, it is recommended that his parents are or become aware of the specific types of greetings employed in the Social Story™ so that they can direct him appropriately when they teach him greetings for use at home or in their social circles.

The intervention using the Social Story™ will next be presented. Its effectiveness in developing the desired social skills will then be assessed from the teacher's perspective.

Effectiveness of the Social Story™ for developing verbal greeting skills

Intervention.

All data collection was scheduled for the beginning of the school day and required AA's teacher and peers to wait for five seconds for a greeting to be initiated by him during their first interaction every morning. When a peer was involved, the five seconds began when AA was a few metres away and within eye contact range. On the other hand, when a teacher was involved, the opportunities for greeting usually presented themselves when AA reached the classroom and during morning break times. Moreover, the teacher indicated that sometimes AA might not have an opportunity to greet anyone, for instance if he did not encounter any of the intended targets for interaction.

Baseline and intervention procedures (Phases A and B)

In the baseline stage (A), AA's teacher mentioned that when he or AA's peers met AA, they waited for a period of five seconds. If AA offered no greeting, the peer or teacher opened the interaction ("Good morning AA" or "May Allah's peace, mercy and blessing be upon you") and waited for a response. After each session, AA was allowed to use the iPad® to watch videos and play games. This was intended to be a reward for session participation and not for his performance during the session. Data gathering in the baseline phase was conducted over 12 sessions.

During the second stage or the Social Story™ phase (B), the teacher showed the PowerPoint presentation to AA on the iPad®. After each presentation, AA was asked the two comprehension questions (see Materials) to evaluate his attentiveness and grasp of the Social Story™. The process for this stage was designed in such a manner that if AA did not know the response to the comprehension questions, the story would be shown to him again and he would be told to seek the answer in the story. AA's intervention sessions, however, did not require the repetition of the story. During phase B, the teacher carried on with the data gathering procedure as followed in the baseline phase by allowing AA five seconds to begin a greeting. If AA did not begin a greeting, the teacher greeted him and waited for a response. Data gathering in the intervention phase was conducted over 18 sessions.

Reverse baseline.

During the final (or follow-up) phase, the procedure for greeting remained the same as in the previous phase, but no training (no Social Story™) was provided to AA. Data gathering in the reversal baseline phase was conducted over 15 sessions. The next section presents the results of the intervention.

Results.

Figure 5.12 depicts the graph of AA's 'appropriate', 'inappropriate' and 'no interaction' behaviour during the baseline (A), Social Story™ (B) and follow-up (F) phases. The visual analysis of the graph revealed that there was an overall decrease in 'inappropriate' and an increase in 'appropriate' behaviours during the intervention phase (from session 13). The behavioural patterns in the follow-up phase (from session 32) remained similar to the intervention phase.

Baseline phase (12 sessions): AA achieved an average of 0.4 occurrences of 'appropriate' behaviour; 1.8 occurrences of 'inappropriate' behaviour; and 3.4 occurrences of 'no interaction' during the observation.

Intervention phase (18 sessions): AA achieved an average of 3.1 occurrences of 'appropriate' behaviour; 0.6 occurrences of 'inappropriate' behaviour; and 0.5 occurrences of 'no interaction' during the observation.

Follow-up phase (Session 32 onwards): AA achieved an average of 2.6 occurrences of

'appropriate' behaviour, 0.3 occurrences of 'inappropriate' behaviour and 0.6 occurrences of 'no interaction'.

It was observed, from the findings of the three phases, that between the baseline and follow-up phases AA's behaviour improved on average by an increase of 2.18 occurrences of 'appropriate' behaviour. 'Inappropriate' behaviour was reduced by an average of 1.5 occurrences and the number of 'no interactions' decreased by an average of 2.82 occurrences. AA had started to greet people more appropriately than before the intervention, and to display fewer 'inappropriate' or 'no interaction' behaviours. The use of the Social Story™ therefore appears to have been effective in achieving its aims.

Figure 6. 22: AA's behavioural changes

A (How to greet someone at school)

	A1	2	3	4	5	6	7	8	9	10	11	12	B13	14	15	16	17	18	20	21	22	23	24	25	26	27	28	29	30	31	A32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
Appropriate	0	0	1	0	0	0	1	0	2	0	1	0	1	1	3	3	2	3	3	3	4	5	3	3	4	5	3	4	4	3	2	2	2	2	3	4	1	2	3	3	4	2	2	3	4
Inappropriate	2	1	1	2	2	3	1	2	2	1	3	2	0	1	0	0	0	2	1	0	1	0	1	1	0	0	1	0	2	1	0	1	1	0	0	1	0	0	1	0	0	0	0	1	0
No interaction	2	3	4	3	2	4	4	3	4	5	4	3	1	0	2	1	0	0	1	0	0	1	1	0	0	1	0	0	1	0	1	0	1	0	1	0	2	1	0	1	0	1	0	1	0
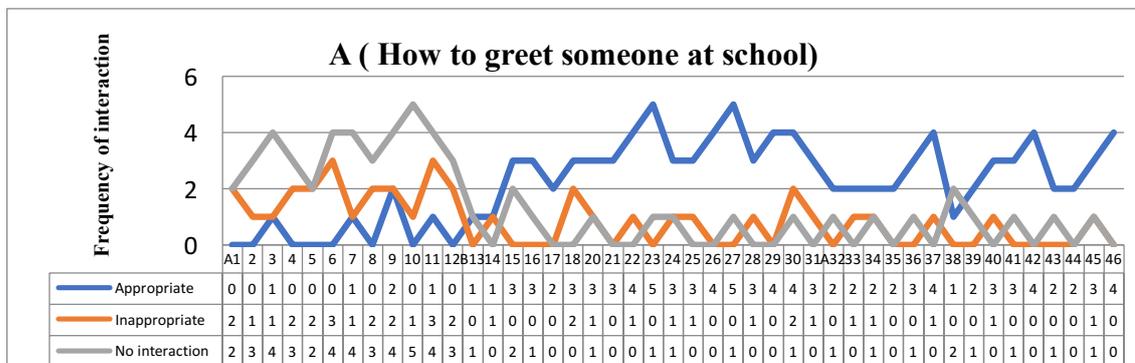
According to AA's teacher, these results suggest that the use of the Social Story™ effectively improved AA's greeting skills. These results, however, should be interpreted with caution, as a number of elements could have affected them, for example the use of an iPad® in the intervention. AA was permitted to use the iPad® to play games or watch entertaining videos after every session. Another factor could have been an intrinsic motivation to improve interaction with peers and with some specific adults. A third possible factor was the interest displayed by peers in the Social Story™ and their participation in the intervention (peers presented themselves along with the teacher and independent observer to greet AA or to respond to AA's greetings).

Case study conclusion

The Social Story™ used in Case Study 2 demonstrated the usefulness of Social Stories™ in positively altering the behaviour of a child with ASD. The Social Story™ used in this study was reasonably appropriate for use with a pre-teen subject and could have been strengthened by the inclusion of a clear conclusion. In other words, adding one or two

visuals with matching statements to describe the rationale of the Social Story™ could make it more robust. The results of using the Social Story™ with AA, however, demonstrated that Social Stories™ proved to be a useful contributory tool to teach verbal greeting behaviour in one specific context to one specific child with ASD. The story used in this study was also found appropriate for use in schools in Saudi Arabia after a cultural evaluation as no interaction between the genders was depicted and the greetings used were appropriate to the country's socio-cultural context. This case study drew attention to the fact that several factors may contribute to the outcome of a Social Story™. In the case study's context, these included the use of an iPad®, entertaining videos, and the involvement of peers and adults in the intervention.

Concluding remarks

This chapter has provided the details of the three case studies undertaken in the current study, i.e. three social skills interventions using Social Stories™. It clear that the three chosen Social Stories™ had demonstrated reasonable effectiveness overall in modifying the target behaviour of the three children with ASD. The Social Stories™ also appeared to be well-suited for the children's age groups and to have been chosen appropriately to meet each child's need. The setting, procedure, and materials used in the interventions also appeared to have been selected with due consideration for the interests of the children with ASD and the facilities at the two schools. The teachers also commented favourably on the use of the stories.

I found that though the various evaluations of the stories had revealed some issues, these did not have a significant impact on the effectiveness of the stories for their designed purpose. For example, the Social Story™ used in the second case study did not adhere completely to the guidelines specified in Gray's checklist, but it did not contain any cultural violations. Similarly, the Social Story™ used in the third case study demonstrated partial compliance to Gray's guidelines but did not breach any cultural expectations. The first story, on the other hand, had several possible cultural violations due to the images used. It may be argued that such cultural anomalies in the visual or textual content of a Social Story™ could facilitate the participation of a Saudi child in a multi-cultural world. Since children with ASD may become confused and not be able to recognise when and how to apply this multi-cultural knowledge, I believe that it is a safer option to keep within the cultural context in a Social Story™. Nevertheless, it could be seen that all three stories served the purpose of suitably modifying the behaviour of the three children with ASD.

Personalisation or customisation of the Social Stories™ also did not seem to influence their effectiveness. For example, the story developed by the teacher used pictures of the child with ASD (M). In the same way, the teacher who used the story provided by the school personalised the Social Story™ by making use of pictures of the child (AA). The first story was not customised, however; the teacher made use of the same generic pictures provided on purchase.

I found that the methods of incorporating the Social Stories™ varied across the case studies, but could not assess their specific contribution to the effectiveness of the

interventions. Neither could I assess if the involvement of peers and grown-ups (apart from the teacher) had any bearing on the interventions. Another factor that could contribute to the effectiveness of Social Stories™ was the personal characteristics of the child. BB, for example, could follow instructions and stay on task. I was unable to determine if this had a significant impact from observation or from the teacher's comments.

From these three case studies, I found that Social Stories™ appear to be a natural fit into the early childhood curriculum, since young children frequently listen to stories and are involved in the real and imaginary world of story, play and drama throughout the day when they attend school during their formative years. The case studies also gave rise to some questions that require further consideration, for example "How to assess what components were vital for effective implementation of a Social Story™?", "When or how to use Social Stories™ as an integral part of a wider intervention?"; "Which is the best source of Social Stories™ for children with ASD?"; "What are the implications if a story does not meet Gray's guidelines or cultural requirements?" and "How do the personal characteristics of a child with ASD affect the effectiveness of an intervention using Social Stories™"?

The next chapter will provide the discussion of the findings.

Chapter 7: Discussion

Introduction

This research study has examined the perceptions of teachers in Saudi Arabia concerning the use and effectiveness of Social Stories™ as a social skills intervention for children with ASD. This study has focused on the sample teachers' perceptions regarding the effectiveness of Social Stories™ in developing three specific social skills – talking with friends at snack time, playing with friends, and greeting people at school - in mainstream boys' schools in Riyadh, Saudi Arabia. Moreover, this study is framed within the context of sociocultural theory. The theoretical framework for the study was conceptualised on the premise that improving the cognition and social skills of children with ASD, combined with a learner-centric school environment, can best strengthen the educational experiences of those children, improve their progress in adopting pro-social and appropriate behaviours and facilitate the use of Social Stories™ as an intervention approach.

Semi-structured interviews were used to gather qualitative data on 15 teachers' perceptions of using Social Stories™ for children with ASD. The teachers' responses were then analysed. A three-case study design was then used to separately assess the effectiveness of Social Stories™ when used in behavioural interventions for the three children with ASD in the two selected mainstream boys' schools in Riyadh. As highlighted in Chapter 4, the subjects chosen were of different ages and had different levels of ASD (e.g., high-functioning autism, educational diagnosis of autism).

The objective of this chapter is to answer the three research questions raised in the introduction to this thesis. This will be achieved by interpreting the teachers' perceptions gathered through the interviews and case studies, correlating them with current pertinent knowledge, explaining the implications of the findings, and offering recommendations for policymakers and teachers. Four primary themes (sources of Social Stories™, content of Social Stories™, the use of Social Stories™ in practice, and evaluating the effectiveness of Social Stories™™) will be presented in this chapter. I have also attempted to provide a set of guiding principles that could be used to develop a Social Story™ in the specific cultural environment of Saudi Arabia. The next section discusses the first theme: sources of Social Stories™.

7.1 Sources of Social Stories™

Scattone et al (2006) and Thiemann and Goldstein (2001) have pointed out that that the sources of Social Stories™ can influence their actual effectiveness. Furthermore, it has been found that the approach used to produce the Social Stories™ may affect their success (favourably or unfavourably) in a particular context. Such studies have also found evidence that Social Stories™ that do not conform to specific methodologies may have increased success (Reynhout & Carter, 2009). Such flexibility may not be exercised when Social Stories™™ are commercially produced, however. It is therefore required that the adults responsible for children with ASD evaluate the fitness of available Social Stories™ in the context of the needs of specific children. All teachers should evaluate the pedagogy [methodology], they use with all children every time they teach; teachers must understand the complexity of the individual learning process and try to match the learning approach to the needs of the children.

The teachers who participated in the case studies and interviews reported that Social Stories™ were either self-written, part of the school's resource provision, or purchased commercially in Riyadh. This is in line with the findings of Lynch and Simpson (2005), who also observed that schools might provide Social Stories™ to teachers and that teachers may choose to create their own Social Stories™. The findings from the case studies further demonstrated that resources related to interventions for children with ASD in Riyadh were readily available and that teachers were willing and open to using the various sources available to them. The evaluations of the Social Stories™ used in the case studies exposed gaps in the construction of the Social Stories™ and their appropriateness for application in the Saudi Arabian cultural milieu. This is in line with the findings from a study by Reynhout and Carter (2009), who assessed the Social Stories™ prepared by teachers using the guidelines prescribed by Gray (1993, 2010) and found that only one in every five stories conformed to the 'basic' requirements of a Social Story™, while none met the requirements of a 'complete' story. This finding demonstrates that there can be considerable variance between the expectations and the actual Social Stories™ created by teachers. Consequently, there is a distinct possibility that the outcome of the intervention could be affected. Nonetheless, it was also determined by Reynhout and Carter (2009) that Social Stories™ were more effective when teachers did not conform to the specified guidelines. It must be noted that the case studies outlined in this study found that the

outcomes of the stories did not appear to be affected by their source or origin. Similarly, personalisation or customisation of the Social Stories™ did not seem to influence their effectiveness with the children with ASD in the current study.

The findings from the interviews corresponded to the findings from the case studies. Teachers stated that they used different sources to obtain Social Stories™ for use with their children with ASD. Nine out of the 15 teachers interviewed reported using stories obtained from shops or online, for example. T15 stated that he had downloaded most of the Social Stories™ he used in teaching from the internet. These stories were considered easy to access on the Internet, as there are free as well as paid for versions. The limitations of such commercially or publicly available stories have been highlighted in this study, however, as the teachers felt that these commercially bought stories did not conform to the requirement of representing specific situations that were relevant for specific children with ASD. T11 was of the view, for example, that "Social Stories™ that are in the bookshop are created by people who do not have an idea of the needs of my children. I therefore prefer making my own, following the approach given by Carol Gray".

In such cases, the teachers preferred to create their own Social Stories™. Moreover, generic Social Stories™ did not take into consideration the cultural aspects of Saudi Arabian society and hence had to be modified by the teachers prior to use with the sample children. T8 mentioned that Social Stories™ "are normally tailored specifically for every child individually, addressing problems based on every child's perspective. Social Stories™ are also cost-efficient and flexible to use; they help in developing the child's social skills".

It must be noted, however, that Social Stories™ created by schools or teachers may be limited to social occurrences within school settings (for example, peer exchanges during snack time or playtime, or communications between pupils and teachers). Moreover, teachers must keep themselves updated about changes to the guidelines for creating Social Stories™ and ensure that research-based evidence is used to develop the methodology for creating stories. Social Stories™ did not originally use illustrations, for example, as it was believed that this could lead to the children with ASD erroneously interpreting the stories (Gray & Garand, 1993), whereas later studies endorse the use of illustrations alongside the written text (Reynhout & Carter, 2009). These findings are in line with the theoretical framework adopted by this study, as it is evident that teachers do comprehend the

importance of taking various social circumstances and cultural impact into consideration while employing Social Stories™™ for children with ASD. The Islamic culture of Saudi Arabia is a significant evaluation factor while studying the effects of Social Stories™ on the sample children.

This section of the discussion has reviewed the sources from which Social Stories™ could be obtained in Riyadh and found that teachers were receptive to the use of such stories from various sources. The study also found that in the majority of cases, teachers were required to modify the Social Stories™ before they could use them to avoid unexpected repercussions. This demonstrates that commercially obtained Social Stories™ may thus not be the right choice for use with children with ASD, especially children in Saudi Arabia. Caution needs to be exercised while creating Social Stories™, as the creation of such stories is time-consuming and, if stories are not developed in accordance with Gray's (2000, 2010) guidelines, they may not produce the desired results. Some teachers in this study reported having resorted to buying ready-made Social Stories™ to save time; therefore, the key finding was that, even if ready-made stories are purchased for convenience, the stories must be carefully evaluated and tailored to ensure their appropriateness and effectiveness for children with ASD (Richard, 2000). The next section discusses the findings concerning the content of Social Stories™.

7.2 Content of Social Stories™

As seen in the review of literature, Gray (1995, 1998) offered a few guidelines for producing a Social Story™. Furthermore, (Gray & Garand, 1993; Gray, 1998) highlighted that working with the predilections of the child with ASD is the most essential element in developing a successful Social Story™. The more insightful the understanding of a child's opinions and emotions, the more likely it is that an author can create a Social Story™ that is beneficial and relevant to that child.

Studies suggest that the cultural and social context of a child must also be taken into consideration for Social Stories™ to be effective. Meng (2008) observes, for example, that what is acceptable in one culture may be inappropriate in another. Furthermore, Griffin and colleagues (2007) highlight the distinctive nature and local pressures exerted by cultural factors and the varying significance placed by different cultures on diverse social characteristics, such as independence and conformity. Moreover, the sociocultural

theory presented by Vygotsky (1978) suggests that the development of children is affected by social factors. Children learn from the people and society around them. In the context of a country like Saudi Arabia, this is particularly significant, since the principles and beliefs of its society differ from many others. As seen in Chapter 2, the social environment in Saudi Arabia is characterised by strict adherence to Islamic directives, such as religious practices, gender segregation, dress code, restrictions on food and drink, etc. Some leeway is given to foreigners, but this is limited.

The arguments outlined above highlight the fact that the content of Social Stories™ has a significant influence upon their effectiveness. In this study, the content of the Social Stories™ used in the three case studies was evaluated using two checklists: the Social Story™ checklist provided by Gray (2004), and a cultural evaluation checklist that was custom-made for this study. Furthermore, the content was also visually evaluated to assess each illustration and its accompanying text for appropriateness from both a general and cultural point of view. This is similar to the findings of both Kokina & Kern (2010) and Sansosti (2005), who observed that the content of Social Stories™ was reviewed by teachers or professionals who worked with children with ASD before using the stories in order to verify appropriateness in terms of the individual context, the child's age and to measure the children's awareness of the terms used in them.

Moreover, by using carefully chosen content, Social Stories™ can be used as the starting point for a child with ASD to extend its knowledge of its own society and associated norms and then be used to help them move ahead and comprehend other social perspectives, as in a multi-cultural context. This must be performed with care, however, as a child with ASD could become confused and neither objective (i.e., familiarisation with the immediate social context or multi-cultural context) will be achieved.

Gray's (2004) checklist proposed 10 parameters to assess the content and structure of a Social Story™. In this study, I tagged each checklist parameter by the feature it attempts to measure (such as the composition of the story, how it develops, perspective, or subject matter). Three parameters were found to be associated with each of the following elements of a Social Story™: 'content', 'structure', and 'presentation'. One parameter was associated with the 'context' of the Social Story™. The custom-designed cultural evaluation checklist comprised items 3, 8, and 9 of Gray's checklist to assess the Social Stories™ from a cultural standpoint. Sansosti (2005) developed a "Social Story™ Validity

Checklist" to inspect the content and purpose of each Social Story™ for his PhD study. A study by Wright and McCathren (2012) created a modified version of Sansosti's checklist, the "Social Story™ Construction Checklist". These did not, however, explicitly designate which aspects of the Social Story™ were being assessed.

The content of the Social Stories™ used in the case studies was evaluated during the study using the two checklists outlined above. The Social Story™ used in the first case study, *Talking with friends at snack time*, was purchased for the intervention by the teacher from a shop in Riyadh. The teacher (KK) indicated that the intention in using the Social Story™ was to encourage the child (BB) to talk with his friends during snack time at school and to encourage BB to share his snacks with his friends. This story was displayed in booklet form to the child. Studies by Kuoch & Mirenda (2003) and Crozier and Tincani (2007) described the use of Social Stories™ to encourage young children to behave appropriately at snack time (children aged 5 years and 9 months and 3 years and 9 months, respectively). These studies also used the Social Story™ in booklet form.

This story was found to most closely adhere to the requirements set out in Gray's checklist. The story complied with the Social Story™ formula from the perspective of sentence use, being written in the first person, positive in tone, factually accurate, and so on. Crozier and Tincani (2007) observed that the Social Story™ for snack-time behaviour in their study conformed to Gray's guidelines, although only the sentence ratio was reported. Kuoch & Mirenda (2003) also reported compliance with Gray's guidelines. The visuals used in this third story were generic, however, which could lead to misrepresentation and misinterpretation, as can be seen in the following cultural evaluation.

The cultural evaluation found that firstly, the dress code in the images in the first Social Story™ was not suitable, as the children in the pictures were wearing sleeveless tops. The clothing used in the pictures would be considered appropriate for children of either gender in BB's age group (6–7 years of age) in Western countries, but not in a strict Muslim country. If the pictures represented boys, shorts are acceptable clothing for schoolboys in Saudi Arabia but sleeveless T-shirts are not, so this represents a partial breach of the rules. On the other hand, if the pictures represented girls, there would be a clear violation, as girls are required to wear a headscarf. Furthermore, shorts and T-shirts would be unacceptable attire for female children represented in content shown to boys. The pictures also did not clearly depict either boys or girls, which could cause a violation of the rule

on segregation of the genders, potentially causing the child to be confused. It must be noted, however, that this would not have been an issue if the objective of the story was to introduce the child to social experiences in a multi-cultural context.

Another possible cultural breach of rules in this Social Story™ was that of pictures of food items resembling non-halal food. One implication of the use of Social Stories™ that have been commercially procured but not modified prior to use is that the content could be misunderstood by the target child, resulting in adverse consequences if the behaviour is replicated in a non-school setting. The studies by Kuoch & Mirenda (2003) and by Crozier and Tincani (2007) did not report any cultural evaluation of the Social Stories™. This study will therefore contribute to the current knowledge and understanding of Social Stories™, especially in terms of their use in specific cultural environments such as Saudi Arabia.

The visual evaluation of the first Social Story™ also identified several shortcomings in the story from the Saudi/Muslim perspective, as described in the cultural evaluation. Generic pictures were used instead of photographs of the child (and peers) in the snack-time setting, which could have led to the child failing to identify with the story, thus reducing its effectiveness. The Social Stories™ used by Crozier and Tincani (2007) and Kuoch & Mirenda (2003) also used generic graphics, but did not report any miscomprehension by the target children or any adverse effects on the success of the Social Stories™. Sansosti and Powell-Smith (2006) mentioned that the Social Stories™ used in their study were modified prior to use, based on the evaluation of the Social Stories™. In this study, however, the Social Stories™ were not modified prior to use.

The Social Story™ used in the second case study was written to help improve M's verbal abilities and social behaviour during playtime in school. The story, *Playing with friends*, was written by his teacher (F), who had observed M's erratic behaviour in the play setting. The objective of the Social Story™ was to increase M's independence describing the behaviour he should use in order to direct his actions when playing in the play centre. The story was developed using Microsoft PowerPoint and displayed on a computer. In studies conducted by Crozier and Tincani (2007) and Kuoch & Mirenda (2003) to address similar behaviours for slightly younger children, the researchers reported that a booklet was used to display the Social Story™. Similarly, Clark and Martin (2004); Lorimer and colleagues (2002); Rowe (1999); Sansosti & Powell-Smith (2004), also reported the use of Social

Stories™ in booklet form.

The content and construction of the Social Story™ for the initial case study were first evaluated using Gray's checklist. I found, however, that the structure of the story could have been improved by including a body narrative core, a conclusion, and a more robust title. Furthermore, the story mainly contained descriptive sentences with only one perspective sentence. There were no cooperative, directive or affirmative statements. The story thus did not comply with Gray's Social Story™ formula in terms of using different types of sentences. Furthermore, the story did not answer the relevant interrogative "wh-" questions, although positive language was used, the narrative was in the first person, the tone of the story was patient and reassuring, and the content matched the capacity of an eight year-old child while being factually correct, thus making the Social Story™ appropriate for use with a child of M's age. Both Kuoch & Mirenda (2003) and Crozier and Tincani (2007) observed that the Social Stories™ used in their studies conformed to Gray's guidelines, although the focus of their evaluations was only the sentence ratio. Their rationale for restricting their evaluation to the sentence ratio and not including cultural factors could perhaps be attributed to the fact that the stories were developed and used in a less prescriptive cultural environment than Saudi Arabia. Considerations such as the visuals used in the stories or references to interaction between the genders, for example, did not limit the use of the story.

The content of the story was then evaluated using the cultural evaluation checklist and was found suitable for use in the Saudi Arabian context in its current form. There were no violations from the perspective of dress code, interaction between the sexes, gestures, or items of food or play. My suggestion was, however, that any additional material, such as proposed modifications, should also be evaluated in the cultural context prior to inclusion.

During the visual evaluation of the second Social Story™ in this study, it was suggested that supporting visual content should be included to provide the child with accompanying details about the different events in the play area. Photographs of the child and his peers in the play centre setting had been used, which increased the child's identification with the story and was therefore a positive aspect. The Social Story™ used in the study by Crozier and Tincani (2007) used simple colour images rather than photographs; the teacher of the child in the study felt that photographs would be more appropriate. Kuoch & Mirenda (2003) used Picture Communication Symbols (PCS; Johnson, 1994) produced

using BoardMaker software (Mayer-Johnson Co.), or pictures downloaded from the internet. Additional visuals describing basic activities/cues/appropriate play behaviour with supporting statements could help improve the story from the perspectives of presentation and content. The inclusion of statements to act as cues for the child would be beneficial for completeness and potential re-use. No such recommendations were provided by Crozier and Tincani (2007) or by Kuoch & Mirenda (2003). This study therefore offers future researchers some guidance around assessing a Social Story™ prior to using it.

The Social Story™ used in the third case study, How to greet someone at school, was developed in the school. The objective of this story was to assist the child (AA) with learning the necessary skills to respond to greetings and to assist him with learning to respond to teachers and peers using non-verbal methods of communication. This story was also developed using Microsoft PowerPoint and initially displayed on a computer. Subsequently it was displayed using an iPad®. Reichow and Sabornie (2009) explored the use of a Social Story™ to address a similar behavioural requirement; however, their study used a printed, multiple-page format for the Social Story™, accompanied by a visual cue. Swaggart et al. (1995) also described the use of a Social Story™ in booklet format with a child who displayed unsuitable 'greeting' behaviour (though not in a specific school context). In this case, however, two Social Stories™ were used, in contrast to the single Social Story™ used in this case study. Furthermore, other techniques were used in combination with the Social Stories™ (for example, verbal or physical redirection).

The content and construction of this Social Story™ was evaluated using Gray's Social Story™ checklist. I found that the structure of the story could be improved by providing a clear conclusion to explain the rationale of the story, thereby increasing its potential for effectiveness. The story did provide answers to most of the interrogative questions, was written in the first person, used positive language and appropriate illustrations, and the narrative was appropriate for a child of AA's age, but it contained mainly descriptive and directive statements, resulting in non-compliance with the Social Story™ formula. Nevertheless, the content of this story was generally found to be appropriate for use with a child of AA's age. The study by Reichow and Sabornie (2009) reported that the Social Story™ they used mainly followed Gray's guidelines and deviated only by using visuals and multiple pages, which is in any case the currently accepted practice according to

subsequent modifications to the Social Story™ formula. The study by Swaggart and colleagues (1995) did not state adherence to Gray's guidelines for Social Story™ creation but provided extended guidelines of their own which were based on Gray's guidelines.

AA, the subject of the third case study, is Caucasian. As mentioned earlier, although some leeway is offered to foreigners, they are still expected to conform to the vast majority of Saudi rules and traditions in public. The cultural evaluation of the third Social Story™ revealed it to be culturally appropriate for use with a boy of AA's age in the context of Saudi Arabia. As described in Chapter 2, specific rules for greeting exist in Saudi Arabia. No violations were encountered in matters of dress code or interaction between genders. I suggested that any additional or supporting material, such as proposed modifications, should also be evaluated in the cultural context prior to inclusion. No other study was found that described the use of a Social Story™ with a foreigner in Saudi Arabia. The subject in Reichow and Sabornie's (2009) study was in his native country, hence there is no reference to cultural assessment. The study by Swaggart et al. (1995) was not conducted in a foreign context either, hence no cultural evaluation was reported.

Wing (1998) found that most children with ASD demonstrate an inability to decode social cues correctly. The words and gestures within social dialogue, for example, are often a cause of great confusion to a child with ASD (Frith, 1989), limiting the child's engagement in general social interaction (Watts, 2008). The situation is exacerbated when a child has to bridge cultures between home and school, such as in AA's case. These factors can lead to autistic children becoming bewildered and unable to demonstrate appropriate conduct in social situations. It is, therefore, a stringent requirement for teachers or other developers of Social Stories™ to take the origins and background of children with ASD into consideration prior to selecting a story for use with the child.

Although, as described previously, the third Social Story™ was mostly adequate for use in the context, I felt that the addition of a few more statements to the existing visuals would help AA identify the time of day or location of an interaction, which could further help him to greet others or to respond appropriately to being greeted. In comparison, the Social Story™ in Reichow and Sabornie's (2009) study used 'stick figures' in the story and there is no description of a visual assessment. While the Social Stories™ used by Swaggart et al. (1995) made use of corresponding illustrations or icons, there is again no mention of a visual assessment of the stories. This study therefore draws attention to the

advisability of assessing a Social Story™ for visual content prior to using it.

There are some that have used Social Stories™ in interventions for children with ASD have not performed such detailed evaluations of the content of the stories. Such as Barry and Burlew (2004) and Sansosti and Powell-Smith (2006) did not specify whether the stories that were developed had obeyed Gray's guidelines. Sansosti and Powell-Smith (2006) did use a journal, however, to measure whether the use of the Social Story™ followed the guidelines offered by Gray and Garand (1993), whereas this study has assessed the Social Stories™ from the perspectives of cultural and visual appropriateness as well as construction. Crozier and Tincani's (2005) study mentioned explicitly that they had modified the ratio of sentences proposed by Gray and added sentences that were more 'directing' in nature, although Gray's prescribed sentence types were nonetheless used. Adams and colleagues (2004) reported using Gray's sentence types and sentence ratio but used the story to target four kinds of behaviour, which departs from Gray's advice to address a specific behaviour (i.e., one behaviour) in a single story. This study was carried out in conformance with the guideline to use a Social Story™ to address one specific behaviour or social situation at a time.

Mancil, Haydon, and Whitby (2009) followed Gray's guidelines around sentence types and sentence ratio, but used a single story for three participants, rather than personalising the story for each child. This study, on the other hand, uses three different Social Stories™ for each child, even though the stories had to be procured from different sources. Mancil et al (2009). used both a paper version and a PowerPoint version of the story. Hagiwara and Myles (1999) followed Gray's guidelines, but used a multimedia format, a mode of Social Story™ presentation that was not originally suggested by Gray. The Social Stories™ in this study used different formats according to what the teachers considered most suitable for each child (for example, PowerPoint presentations on computers, iPad®, or booklet form). Furthermore, Hagiwara and Myles (1999), Quilty (2007), and Scattone et al. (2006) used at least one person with relevant experience of creating Social Stories™ to assess the reliability and validity of the stories developed in their studies to ensure that they contained the necessary elements and matched each child's comprehension ability. In this study, the Social Story™ used in the second case study had been evaluated by the teacher's colleagues.

Though several studies mention the importance of taking culture into consideration in the

treatment of children with ASD (e.g., Wilder et al. 2004; Ennis-Cole et al., 2013), none were found to have fully evaluated a Social Story™ from a cultural perspective. Hsu et al. (2012) used some Social Stories™ that contained culturally familiar components and some that did not to detect whether a "multiculturally-based Social Story™" is more successful than one which does not contain cultural facets. They observed that "there is no exact standard that can be used to evaluate whether the culturally familiar components really matched the participant's diverse background" (p118). Finally, no studies mentioned the visual evaluations of Social Stories™. The visual inspection of some of the stories discussed referred to the observations of the child's behaviour (Kuoch & Mirenda (2003); Okada et al., 2008).

Teachers who participated in the interviews felt strongly, however, that cultural assessments were required. T10, for example, stated that "Social Stories™ have to reflect the culture of the local people". Similarly, T14 felt that it was important for both teachers and the Ministry of Education in Saudi Arabia to be vigilant in examining the Social Stories™ they were using, or else for teachers to develop their own. He believed that Social Stories™ downloaded from the internet are mostly not appropriate for the Saudi Arabian cultural context.

This section of the discussion has addressed the content of the Social Stories™ used in the three case studies described in Chapter 6. The content of the stories was assessed using Gray's checklist and a specially developed cultural evaluation checklist and the stories underwent a visual evaluation. The key findings from the evaluations of each Social Story™ were summarised. The teachers' opinions have also been analysed. From the findings, we can conclude that a careful evaluation of a Social Story™ is required prior to its use in order to ensure that it is appropriate for use with the specific child, in the specific cultural context, and for the specific learning or behavioural issue it is intended to address.

A key conclusion drawn here could be that teachers need to either try to develop the content of Social Stories™ on their own or heavily customise any that are obtained commercially. The Ministry of Education in Saudi Arabia could further support teachers by ensuring that mainly stories that conform to the country's cultural specifications are made commercially available or by providing the necessary training and resources for teachers to aid them in modifying the content of stories for use. Furthermore, training teachers in evaluation of the accessibility and content of Social Stories™ would be

beneficial. The findings from the study also contribute to the literature on the evaluation of the content of Social Stories™ prior to their use. The next section discusses the findings from my observations of the practical implementation of Social Stories™.

7.3 Practical Use of Social Stories™

The use of Social Stories™ in practice involves planning and preparation from the teacher or other individuals implementing the intervention. In other words, any intervention to address the social skills impairment of a child with ASD must be carefully designed. For instance, teachers using Social Stories™ must identify the need (for example. the behaviour) to be addressed, determine the desired outcome in the given social situation to be addressed, determine whether the Social Story™ will be used as an independent intervention or in a wider behaviour support plan, create a Social Story™ to suit the situation (and the child), carry out the intervention, study the child's progress in mastering the desired behaviour, and evaluate the intervention (Crozier & Sileo, 2005; Gray, 1998; Gray & Garand, 1993).

As highlighted in the literature review, the theoretical framework of the current study was founded on Vygotsky's (1978) sociocultural theory, which posits that education and the construction of meaning are profoundly shaped by everyday social interaction in early childhood. Social interaction is hence a key part of a child's cognitive development, so the use of social skills interventions in the school environment may significantly aid children with ASD because of their challenges in the social arena. Accordingly, this study was set in a school environment and assessed three different applications of Social Stories™. Although various methods can be used to present Social Stories™ in a classroom, the original method involves reading them to a child with ASD. The teachers interviewed reported using a variety of means to present Social Stories™, including computers, projectors and video. Many used PowerPoint presentations, multimedia programmes, videos, audio prompts, flashcards, etc., which could be projected or easily displayed in the classroom. In these teachers' opinion, using different display methods was more likely to attract the attention of children with ASD than the use of a single method.

One of the teachers (T10) stated that "I use various methods, including video presentations, computer presentations, digital strategies, PowerPoint, and audio material

incorporated with visual prompts". T15, in comparison, preferred to use only projected PowerPoint presentations: "I mainly present the stories using a PowerPoint presentation and a projector; this makes the story visible to the child with ASD". Likewise, researchers have also suggested that modifying the format of the Social Story™ could be beneficial. A common method of modification is adding images to illustrate the text (Thiemann & Goldstein, 2001). Examples of modified Social Stories™ include computer-generated multimedia Social Stories™™ (Hagiwara & Myles, 1999), video models (Sansosti & Powell-Smith, 2008), 'apron storytelling' (Haggerty, Black, & Smith, 2005) and Comic Strip Conversations (Pierson & Glaeser, 2007).

The teachers who participated in the case studies used PowerPoint presentations on the computer (case studies 2 and 3) and on the iPad® (case study 3) to present the Social Story™. In case study 1, the Social Story™ was presented as a booklet. These teachers observed that different methods of incorporating the Social Stories™ were influenced by the age, capabilities, and interests of the children. Positive effects were reported after the use of the three Social Stories™. In other words, my research found that although methods of incorporating Social Stories™ can vary, the contribution of the method to the effectiveness of the interventions cannot be determined. Gray and Garand (1993) observed that Social Stories™ should be modified to address the complexity of each child's special requirements and capabilities. Subsequently, other studies reported modifying the Social Stories™ to personalise the story for each child (e.g., Clark & Martin, 2004; Swaggart et al., 1995). Studies by Brownell (2002) and Hagiwara and Myles (1999) similarly reported positive effects of using different methods of presenting and incorporating the Social Story™. Kuoch & Mirenda, (2003) also mentions that Social Stories™ are a cost-effective intervention method.

The teachers interviewed encountered several barriers and obstacles to using Social Stories™ in the classroom with autistic children. As highlighted in the literature review, Social Stories™ cannot be used without adequate preparation in terms of teacher training, classroom resources, and technology (e.g., computers and videoconferencing). Fava et al. (2012) insist, for example, that teachers who work with and develop children with ASD should be well-trained and supervised. Furthermore, Samuels and Stansfield (2012) specify that the concept of Social Stories™ must be very well understood by teachers, especially the rationale for use, the desired results, and the importance of repeating the

Social Stories™ in the exact same way each time they are used. Mancil and Pearl (2008) recommend adaptation of materials or modification of class organisation and teaching strategies to facilitate increased interest and comprehension of daily school routines.

The teachers who participated in the interviews identified technology as an important tool in teaching, and reported that it can be used to present Social Stories™ to children with ASD. This is in line with findings from other scholars who have recommended the increased use of visuals or hands-on materials (e.g., Robert & Joiner, 2007), computers and apps on Apple® iPhone/iPad devices (Ploog et al. 2013), and videoconferencing (e.g., Machalicek, 2008). The interviewed teachers also reported that they did not always have easy access to such technology, however. T5 reflected that the provision of facilities by the school was a significant factor in assisting or hindering the development of necessary social and life skills for children with ASD. He said:

If the school does not help effectively in providing materials and resources for teachers and classrooms, then teachers will be unable to utilise the relevant aids and behavioural interventions to assist children with ASD and provide them with Social Stories™.

Another barrier reported by the teachers was financial constraints, particularly related to the purchase of expensive equipment and technology such as computers and smart boards. The provision of technological aids, though quite common nowadays, can still be restricted by external circumstances such as school budgets; special schools may not be able to accommodate the purchase of special equipment for the sole use of the children with ASD (Chan, 2009).

The teachers also reported that the availability of resources was an issue. The limited availability of Social Stories™ within Saudi Arabia was viewed as another challenge, as locally-customised stories were in short supply and adapting generic stories was either impractical or required large amounts of time and technical skill. Another issue that was raised was related to the limitations in teachers' ability to adapt Social Stories™ to the individual learning levels of the children who required them, as they believed that this would again be an expensive and time-consuming process.

The Social Story™ interventions described in the case studies made use of computers and an iPad® to present the stories to the children. The schools in this study appeared to have

adequate technological resources to facilitate the use of Social Stories™. Furthermore, the teachers who participated in the case studies also appeared to be more familiar with the concept of Social Stories™ and were clear about the outcomes expected from the interventions. T4 commented: "One of the main advantages of using Social Stories™ in teaching social skills among children with ASD is the fact that they reveal accurate social information in ways that are clear and reassuring".

This study found that technology and resources played a significant role in the use of Social Stories™ and that the availability of such equipment was essential to the teachers using the stories (Watts, 2008; Chan, 2009). In the opinion of the teachers interviewed, the mistaken assumption that children had similar learning styles and requirements could lead to a variety of issues for the children when engaging in behavioural interventions. T1, T2, and T11 believed that the use of Social Stories™ with a group of children with varying needs could be challenging; they therefore had reservations about the extent to which these stories could help multiple children at the same time. T3 and T14 suggested the development of suitably personalised Social Stories™ to address specific learning and behavioural challenges; for instance, to deal with children in different phases of progress through interventions or in different grades. T4 also expressed concern about language and culture, highlighting issues such as the translation of Social Stories™ written in English into Arabic, and the making of appropriate revisions to deal with pertinent cultural concerns for the Saudi context. T3 felt strongly about the need for Social Stories™ to be in Arabic for children with ASD in order for them to better comprehend the meaning of the stories.

The attitudes of parents towards the use of behavioural interventions were another significant barrier encountered by teachers. T13 argued that parents' refusal to accept their children's learning difficulties posed difficulties during interventions. In her dissertation, Rota (2011) also draws attention to the fact that children (including children with ASD) can vary in terms of their learning needs, even on a daily basis. Furthermore, children differ in personality. Burden (1995) points out that varying characteristics such as race, ethnicity, colour, culture, social and economic status and family background will cause children to be different from each other. Additionally, children with ASD have their own individual approaches to learning, aptitudes, pastimes, and preferences. The unique needs of a child with ASD require customised education programmes (Guldberg et al., 2011).

These unique needs should be addressed within a consideration of all the above variables in the child's life and learning journey.

Children learning style is also a factor in the effectiveness of the Social Stories™, as mentioned by T3. The teacher felt that the onus on the teachers to identify children with additional learning needs and apply appropriate interventions. T11 and T12 also considered a couple of different factors that would aid the use of the Social Story™ in teaching children with ASD, including the pace at which children learn, which can change in correlation to their interest, motivation, and how well-matched the teaching programme is to the child's learning needs and the willingness of their parents to help.

It is clear that teachers must take the diversity of children with ASD into consideration when planning interventions for them. These could include classroom arrangement, modification of teaching routines, and lesson planning that is matched to a child's existing knowledge (le Roux et al., 1998), curriculum adjustments, increasing the predictability and routine of the school schedule, providing sufficient notice of schedule changes (Lynch & Irvine, 2009), offering support for movement between classes, and for annual transitions such as leaving school for a vacation or returning to school after a vacation (Stoner et al., 2007), modifying classroom arrangements to provide quiet areas and sensory materials, visually labelled centres and areas, multi-sensory approaches, visual schedules with notice of changes (Deris & Di Carlo, 2013), and utilising teachers who are trained in ASD (Charman et al., 2011).

The interviewed teachers reported that another significant barrier to the use of Social Stories™ was a lack of cultural context. In contrast, Milner & Tenore (2010). found that when teachers are not aware of cultural differences in children' methods of communication and learning, a mismatch may occur a shortfall between the desired outcome of teaching and what the child actually learns. Commercially available Social Stories™ in Saudi Arabia do not currently take cultural specifics into consideration. Consequently, children with ASD can become confused as they are unable to grasp the contexts of stories. A Social Story™ containing visuals that do not take the Saudi dress code for women into consideration, or showing situations that would not be encountered in Saudi culture, could cause more harm than benefit to a child with ASD. Such a sentiment was echoed by one of the respondents of the study: "There is also the issue of the bookshops selling Social Stories™ that are not in line with the country's culture being

another barrier to its effective usage". The respondents' concern over the lack of availability of culturally specific Social Stories™ is evident from the statement made by T8, who said: "Among the barriers I face is the lack of locally developed as most of the Social Stories™ online are tailored for children in Western countries. There is a need to develop these, targeting local children".

The Social Stories™ available in Saudi Arabia at the current time have all been developed in the West, for the Western cultural context. Consequently, the teachers were faced with the challenge of suitably adapting the stories prior to use for the Saudi context. Several teachers expressed that it would be beneficial to produce Social Stories™ locally so as to avoid ambiguity or conflict from a cultural perspective. T9 stated the cultural difficulties as follows: "a key problem facing Social Stories™ is culture and symbols used in these stories". Moreover, the teachers also highlighted some implications of Social Story™ use in the cultural context of Saudi Arabia. They believed, for instance, that the restrictions in Saudi Arabia hindered Social Stories™ from reaching their full potential. Another factor they highlighted was that most Social Stories™ were written in English, which also restricted their use as they felt that stories written in Arabic would have a wider reach. T3 mentioned: "There is a need for Social Stories™ to be in Arabic to help the children with ASD understand what it is they are being taught. This is the only way that such a Social Story™ can help".

The Social Stories™ used in the second and third case studies did not have any cultural violations, either in textual or visual content. These could therefore be re-used with minor modifications to the structure. This could be because they were either developed by a teacher or provided by the school. The story used in case study 1, for example, was commercially purchased and made use of generic visuals (not photographs) that contained ambiguities in terms of the snacks represented and the gender of the depicted children. Although the child in case study 1 was not adversely affected by aberration, future use of the Social Story™ could be limited unless the visuals are replaced by more appropriate ones.

The use of Social Stories™ can be controlled by their acceptance in a given culture and/or religion. In the context of Saudi Arabian culture, Muslim parents of children with ASD would wish to raise their children according to Islamic guidelines and for them to be equipped to function appropriately in their homes and communities (Ennis-Cole et al.,

2013; Jegatheesan et al., 2010). Cultural influences such as perceptions of disabilities, and the nature of Saudi society (for example, patriarchal, collectivist, high involvement of parents and close relatives), can significantly influence the degree of acceptance and use of Social Stories™ (Jegatheesan et al., 2010; Morad et al., 2001; Ennis-Cole et al., 2013). One of the teachers interviewed (T2) pointed out that "Saudi Arabia, being an Islamic country with Islamic law that governs every part of life, means that not just any Social Story™ can be allowed in the classroom".

Ogata and colleagues (2006) observed that children with ASD find it difficult to respond to grown-ups who appear, converse and conduct themselves in a fashion distinct from their own expectations. They acquire knowledge best when they can connect to the person and the knowledge he/she brings and when the teacher utilises responsive and culturally appropriate approaches (Baca, 2004; Wilder et al., 2004; Tepper & Tepper, 2004). Baca (2004) further observed that one of the fundamental premises of successful inclusion within special education is for teachers to study the cultural backgrounds of their children. In this context, T11 considered that the benefits of Social Stories™ were that "children will be able to approach the cultural context of Saudi Arabia and understand it fully, knowing how best to deal with a social situation and what behaviours are regarded as socially acceptable".

The majority of the teachers believed that the involvement of the Ministry of Education in screening Social Stories™ for appropriateness of use in Saudi Arabia would help to ensure that stories were developed to reflect traditional and cultural customs, or appropriately modified (in the case of Social Stories™ produced overseas). They saw this as an educational rather than a policing exercise, with the objective of developing the social skills of children with ASD as far as possible, ensuring their teaching and learning is consistent and does not cause unnecessary confusion. Conversely, some teachers also felt that it would benefit children if some diversity was retained in the Social Stories™. T14, for instance, responded that it was important for both teachers and the Ministry of Education in Saudi Arabia to be vigilant in examining the Social Stories™ they were using, or else for teachers to develop their own: "There are some Social Stories™ that are not appropriate for the cultural specifics of Saudi Arabia, especially those that have been downloaded from the internet". On the other hand, expressing this tension between traditional and modern views of education in Saudi Arabia, T12 observed: "It is important

to have some diversity in Social Stories™, which would further widen children's capacity for understanding".

The key finding within this theme was that teachers need to be open to using different methods of presenting Social Stories™ in the classroom based on the individual characteristics or needs of children. This is in line with the three basic approaches for applying a Social Story™ as suggested by Gray and Garand:

(a) For a child who reads independently, the story is read twice by an adult, followed by the child reading it back. Then the child reads it daily. (b) If the child does not read, the story may be recorded on a cassette tape with a signal (i.e., bell) to turn the pages. The child is taught to 'read' the story, and reads it daily. (c) Videotape the Social Story™ to incorporate video modelling. The story is read aloud on a videotape, with one page on the screen at a time (1993, cited in Teaching Children with ASD: A Guide for Educators, 1998).

The findings from the interviews suggest that it would be of merit to include parents in the planning of any interventions for children with ASD so that the individual needs of each child and the cultural factors can be taken into consideration. Moreover, the findings from the case studies indicate that the teachers took the diverse characteristics of the three children into consideration. The Social Story™ and method of delivery for each was chosen based on factors such as the type of ASD, age, specific behaviour to be addressed, and interests of the child. The findings of this study therefore confirm the need to take the individual needs of children with ASD into consideration when using Social Stories™ (Guldberg et al., 2011). Furthermore, this study has highlighted the need for educators to understand that the cultural environment of a child with ASD can act as a barrier to the use of Social Stories™. The next section evaluates of the effectiveness of Social Stories™ used in this study.

7.4 Evaluating the Effectiveness of Social Stories™

All the sample teachers clearly recommended the use of Social Stories™ for children with ASD. Furthermore, the majority of them viewed Social Stories™ as an effective intervention for their students. Similar findings were reported by Reynhout and Carter (2009) and Styles (2011), Swaggart et al., (1995), Kagohara et al., (2013), Reichow and Sabornie (2009), and Crozier and Tincani (2007), to name a few. Some comments from

the interviewees regarding the effectiveness of Social Stories™ included: "Social Stories™ help to translate challenges into a more approachable form for children with ASD" (T4), and "Social Stories™ are positive due to the comfort children with ASD have around visual learning methods" (T8).

Despite the apparent acceptance of Social Stories™, scholars are uncertain if there is enough evidence to substantiate their effectiveness (Styles, 2011). Generally, existing research demonstrates that Social Stories™ can be successful in reducing unsuitable or unwanted behaviours. On the other hand, the individual, imaginative, and manageable properties of Social Stories™ have led to their widespread use as a mediation approach among psychologists who study human education, as well as other experts in emotional health and social skills deficits such as those experienced by people with ASD (Kagohara et al., 2013).

Previous studies on Social Stories™ interventions have reported various behavioural areas where success has been achieved, including reduction of aggressive behaviour (Adams et al., 2004), improvement in appropriate behaviour (Agosta et al., 2004), increased use of appropriate social skills (Barry & Burlew, 2004), increased on-task behaviour (Brownell, 2002), fewer tantrums (Simpson & Myles, 1998), improved greeting behaviour, increased initiation of play activities (Feinberg, 2001), and increased appropriate eating behaviour at meal times (Staley, 2001). Studies by Kagohara et al., (2013), Reichow and Sabornie (2009), and Crozier and Tincani (2007), have drawn attention to the usefulness of Social Stories™ in improving the three specific social skills for children with ASD highlighted in this study, namely, talking with friends at snack break, playing with friends, and greeting people at school. T5, who had eight years' experience of using Social Stories™ mentioned how "Social Stories™ aid in the development of children' academic, social and practical skills and assist them in adapting to unexpected events".

The results from the meta-analysis on Social Story™ effectiveness conducted by Kokina and Kern (2010, p. 822) confirmed previous findings concerning the "questionable effectiveness of Social Story™ interventions for children with ASD". Nonetheless, they also stated that their "results do not imply that Social Stories™ are ineffective" P. 822. Kokina and Kern's research reviewed 18 studies that involved 47 children and determined that the Social Stories™ used in these interventions usually either worked well or did not work at all. In general, 51% of the results were categorised as

"highly effective" whereas 44% were categorised as "ineffective" and 4% of the remainder had "questionable" effectiveness. Other reviews on Social Story™ interventions have also reached similarly contrasting conclusions (Reynhout & Carter, 2006).

Similarly, teachers who were interviewed also provided some contrasting opinions. T1 considered that "the stories are not enough in themselves to stand alone as a behavioural intervention". T2 believed that "Social Stories™ require additional strategies to work effectively, but also that they take a lot of time to implement and to individualise". On the other hand, T11 considered the key drawback to be that "the development of the social skills and behaviours of children is temporary, and difficult to implement long term". The National Autistic Society (NAS) (2015) observed that Social Stories™ are best used in helping individuals with ASD acquire simple self-care strategies – eating breakfast, washing hands – or social communication skills, for example, introductions, apologies, table manners. On the positive side, Kokina & Kern, (2010) believes that Social Stories™ can be easily implemented and they are also effective in terms of time and cost.

Yarnall's (2000) study emphasised two disadvantages associated with the use of Social Stories™. Firstly, the effectiveness of the story is subject to the competence of the author and to his/her understanding of ASD spectrum disorders, as well as adeptness in attuning themselves to the needs of individuals with ASD. Secondly, the accompanying data is circumstantial rather than experimental, which affects the dependability of the intervention. This was also confirmed by the teachers interviewed, such as T14 and T15, who observed that "Social Stories™ depend on the knowledge and skills of the authors, and when their knowledge is insufficient in the field of ASD, this may be passed into the Social Story™". Kokina and Kern (2010) observed that Social Stories™ were more successful when addressing unsuitable conduct than when instructing in social skills. Furthermore, they found that Social Stories™ were more effective in dealing with single rather than complex behaviours. The effectiveness of Social Stories™ was influenced by the children's levels of cognitive abilities and communication skills. This could be attributed to the fact that Social Stories™ are a language-based intervention. Furthermore, the Social Stories™ used were selected for their appropriateness for the target children in the respective interventions.

The participant in the first case study was a boy with ASD, aged 6 years and 11 months (BB). The objective of the Social Story™ was to encourage BB to talk with his friends during snack time at school and to encourage BB to share his snacks with his friends. BB improved during the observation period. 'Appropriate' behaviour increased, while instances of 'inappropriate' behaviour and 'no interaction' reduced. BB's teacher was pleased with the outcome of the intervention. He did highlight the fact, however, that since BB's lack of social interaction prior to the intervention had not disrupted classroom or snack-time interaction between the teacher and other children, it was difficult to determine whether the Social Story™ had independently contributed to the change in behaviour. Furthermore, he felt that BB's ability to follow instructions, take turns, and stay on task was more likely to have caused the intervention to succeed. Assuming that the use of the Social Story™ did in fact produce some benefit, the outcome from this case study supports the opinion of Scattone et al. (2002) that a child does not have to read a Social Story™ independently for a change in behaviour to be produced. Similar findings were also reported by Crozier and Tincani (2007).

The participant in the second case study was an eight-year-old boy (M) who had been diagnosed with high-functioning ASD spectrum disorder. The objective of the Social Story™ was to improve M's interactions with peers in the school play centre during playtime. The story was developed using Microsoft PowerPoint and displayed to M using a computer in the play centre. The story was principally read by M, with the teacher standing by to ensure that the whole story was read and to assist in reading if required. The teacher made use of comprehension questions such as "What did the story refer to?"; "What do other people expect you to do?"; "What do you need to do when 'X' asks you for a toy?" etc., to assess M's understanding of the story and the expected behaviour. The data collected was analysed and from the findings in the three phases, it was observed that M had made considerable overall improvement in achieving the target behaviour. This was demonstrated by increases in instances of appropriate behaviour, reduction of inappropriate behaviour, and the increase in the number of interactions.

The outcome of this case study somewhat duplicates earlier studies that reported favourable results regarding the use of Social Stories™ with children with ASD (Crozier & Tincani, 2007; Sansosti et al., 2004; Kuoch & Mirenda, 2003). M's Social Story™ produced useful alterations in his behaviour at playtime and he also demonstrated some generalisation of the behaviour in other situations. Similar findings in terms of

generalisation have been reported in several studies (Thiemann & Goldstein, 2001; Delano & Snell, 2006). In contrast, Sansosti (2006) reported that generalisation of behaviour could not take place without incidents of guidance or conditioning. This study therefore provides a contribution to the literature relating to the effectiveness of Social Stories™ in improving behaviour and generalising social learning to other situations.

The participant in the third case study was a boy aged 12 years and 4 months (AA) who had an educational diagnosis of ASD. The objective of the Social Story™ was to help AA acquire the skills to greet known peers and grown-ups at school to improve his socialisation and communication skills. The story had been evaluated by two of the teacher's colleagues who were already experienced in implementing Social Story™ interventions and who had also used this specific story in interventions at two other public schools in Riyadh. The story was developed using Microsoft PowerPoint and initially displayed to AA using a computer in the classroom. Later, an iPad® was used due to AA refusing to read the story any other way.

The story was read by AA. The teacher made use of comprehension questions such as "What is done when people first see each other?" and "What can I say to greet grown-ups at school?", to assess AA's understanding of the story and his understanding of the expected behaviour. AA's behaviour prior to, during, and after the use of the Social Story™ was observed over 46 sessions (two to three sessions per week). From the observations of the three phases, teacher saw that AA started to greet people more appropriately than before the intervention, and to display fewer "inappropriate" or "no interaction" behaviours. The teacher could not establish, however, if the Social Story™ alone had contributed to the improvement of AA's behaviour, as a number of elements could have affected it, including the use of the iPad®, AA's level of motivation to improve interaction with his peers and with some specific adults, the interest displayed by his peers in the Social Story™, and their participation in the intervention. The findings from the case study reinforce the existing experiential evidence for Social Stories™ by validating their usefulness when used independently, which was not significantly dealt with in earlier studies (Lord & McGee, 2001; Reynhout & Carter, 2006; Sansosti et al., 2004). Another study of a similar aged child (Reichow & Sabornie, 2009), however, questioned the efficacy of a Social Story™ if used alone and whether its role was restricted to simply providing a set of visual cues.

This study has also reviewed the factors that contribute to the best use of Social Stories™. The teachers interviewed believed, for instance, that Social Stories™ should be developed for targeted situations and behaviours. Teachers thus believed that using their experience and knowledge of individual children to define a personalised plan was essential for the education of each child, whether special needs or not. The teachers felt that the choice of intervention should also be based on the needs and characteristics of specific children, as they felt that some children would not respond to Social Stories™. Studies have found that combining two or more social skills intervention methods is the best approach to increase social skills in children with ASD (Skokut et al., 2008).

T5 suggested that the availability of resources, specifically infrastructure and teaching materials, facilitated the successful use of Social Stories™. Another teacher (T11) considered that using Social Stories™ alongside another behavioural intervention or strategy would be most useful for a child with ASD. Matson, Matson, and Rivet (2007) identify five categories of social skills methods: video modelling, peer-mediated interventions, reinforcement schedules and activities, computer assisted learning, and virtual reality. Chan and O'Reilly (2008) acknowledge the use of Social Stories™, along with other strategies such as positive reinforcement, prompting, imitation, and priming, as a method to 'supplement' the story and enhance its potential to produce the required behavioural changes.

In this study, teachers reported that the suitability or appropriateness of a Social Story™ for a specific behavioural context is another factor that contributes to its successful use. A Social Story™ must therefore be developed specifically with an understanding of the child for whom it is intended and the behavioural or functional situation that is to be addressed before it can be considered appropriate for use. The appropriateness of the story to the age and gender identity of the child must also be considered. Situations where Social Stories™ could be used may include choosing activities, or playing appropriately with materials and with peers (Dodd et al., 2008). Social Stories™ can also be used to address functional skills, for example, hand washing (Hagiwara & Myles, 1999) and eating (Bledsoe, Myles, & Simpson, 2003). Findings from this study indicate that factors such as readiness for use in the local language and the stories' suitability in the cultural context also contribute to their effectiveness. Ali and Frederickson (2006) reported that Social Stories™ could be used to help children with ASD in their social interactions and to assist these children in building sociocultural knowledge and skills.

In this study, my findings demonstrated measurable change across three different participants and their behaviours by making use of an A-B-A intervention design with three clear phases, baseline, intervention, and reverse baseline, as described previously. The outcomes indicate that the intervention was successful in helping all the three children with ASD display the desired behaviours more frequently. This is notable because each participant faced unique behavioural difficulties. The findings from this study also contribute to the existing literature on the effectiveness of Social Stories™ in stimulating pro-social behaviours in school children with ASD. Furthermore, the findings corroborate research demonstrating that developed behaviours can be sustained over time (Crozier & Tincani, 2007; Kuoch & Mirenda, 2003).

An important finding of this study is that interventions using Social Stories™ should be designed based on the individual requirements of a child with ASD. Parents, teachers and other caregivers must choose the combination of interventions that will be most appropriate for the individual child. My research has also found that teacher training, parental involvement, and knowledge of the individual child's needs were the essential factors that aided in the successful use of a Social Story™.

In the opinion of the teachers I interviewed, the effectiveness of a Social Story™ also depends on the way it is formulated. First, the story must be appropriate for a specific type of social skill. Second, it should be written taking into consideration the individual child's level of understanding and pace of learning. Finally, appropriate technology should be leveraged to make the Social Story™ more attractive to the child. The Social Stories™ used in the three case studies were appropriate for use with the three selected children as they were suited to their ages and stages of development. The next section discusses the guidelines for the creation of Social Stories™ in the context of Saudi Arabia.

7.5 Guidelines for the Creation of Social Stories™ in the Saudi Arabian Context

This study has found that a Social Story™ could be made more effective by taking into consideration the specific needs of a child with ASD and the cultural environment in which the Social Story™ is to be used. I have therefore attempted to provide a set of guiding principles that can be used to develop a Social Story™ in the specific cultural environment of Saudi Arabia. It must be noted that a Social Story™ can be developed by any individual working with or caring for a child on the ASD spectrum, but it is preferable

that teachers and caregivers should have a sound understanding of pedagogical principles, as well as insight into the learning and behavioural needs and preferences of the individual child.

1. <u>Determine the subject/topic of the Social Story™</u>. As discussed earlier, it is recommended that a Social Story™ focuses on and addresses a specific social ability or circumstance with which a child with ASD has been observed to have difficulty. Other potential subjects could unfamiliar social occasion or skills that the child needs to prepare for. Input around the choice of subject could be obtained from parents, teachers, or other caregivers. It must be noted that any items that distract from the story should be eliminated, wherever and whenever appropriate. Gray and Garand (1993) provide an example of a Social Story™ that used a picture of a boy seated next to a cat on a blue carpet, for example. The behaviour in question was tying shoelaces. Gray and Garand (1993) highlight that due to the tendency of children with ASD to interpret a scenario literally, this picture could be interpreted by the child to indicate that shoes should only be tied by boys seated on blue carpets when cats are present.

2. <u>Gather information about the subject</u>. After a topic has been selected, the writer of the Social Story™ must strive to gather as much information about the subject as possible from those with pertinent knowledge of the child, as well as the situation/behaviour requiring the Social Story™. Important information may include the sequence of activities, cues (if any), the specific proficiencies of the child with ASD, his/her interests and pastimes. This step is critical as it will help the writer to determine the style of writing that will appeal to the child – in other words, the presentation of the story, the level of complexity of sentences that can be used, the manner of visuals that can be used, and so on. There are no specific restrictions on the minimum/maximum number of pictures and captions that can be utilised, the only provision being that the pictures used may be literally interpreted and therefore should be selected with care (Gray, 1995).

3. <u>Understand the viewpoint of the child with ASD</u>. This is a vital stage in the development of a Social Story™, as not knowing how the child with ASD perceives a certain situation and/or feels about participating in it can lead to the Social Story™ being ineffective. The child could have fear or bad memories of earlier instances of the situation in question, for example. As it is the child, not the author, who is the

eventual audience for the Social Story™, it is imperative that the child's feelings be taken into consideration. As this study found, generic Social Stories™ that were obtained commercially were more prone to failure due to their tendency to overlook the specific needs of individual children with ASD.

4. Understand the cultural setting. This study found that the cultural background of a child with ASD can influence the effectiveness of a Social Story™. Writers of Social Stories™ must necessarily take the cultural background into consideration as he/she plans the content of the Social Story™. Using content that is out of context culturally can mislead the child and result in an ineffective intervention.

5. Draft the Social Story™. After gathering the required information, the author can commence writing the Social Story™. Gray's (2010) criteria (Social Stories™ 10, 10.1, 10.2) offer details for how to structure the title, sentence composition, tone and content of the story. Guidance is also provided about the different questions that a Social Story™ must supply answers to for completeness.

6. Assess the Social Story™. After the Social Story™ has been drafted, the author can send the story for review to one or more of a set of pre-determined individuals who work with the child in question, such as teachers, parents, social workers, and so on. It is recommended that one or more peers who are familiar with Social Stories™ review the story. The parents or other close associates of the child with ASD can also help assess the story. Where possible, a Social Story™ should be sent for external review. In the context of Saudi Arabia, the Ministry of Education could train and equip a central body of reviewers to aid in reviewing Social Stories™. The two checklists created by this study could also be utilised in the evaluation of the Social Story™. These two checklists aid in assessing the story's content against Gray's guidelines and from the perspective of appropriateness in the Saudi cultural context. I recommend that the evaluation be completed in three steps:

    a. Evaluation step 1: Use Gray's Social Stories™ checklist to evaluate the content and structure of the Social Story™.
    b. Evaluation step 2: Evaluate the appropriateness of the content in the context of Saudi culture using the cultural evaluation checklist created for this study.
    c. Evaluation step 3: Visually evaluate the Social Story™ to ensure that any visuals used are appropriate for use with the specific child with ASD, are

suitable for the situation, and conform to cultural specifications.

7. Modify the Social Story™. The Social Story™ must be modified after the evaluation of the Social Story™ using the instruments described in item 6 of the guidelines.

8. Reassess the Social Story™. Re-evaluate the modified Social Story™ using item 6. Please note that it may be necessary to revisit steps 6 and 7 until the Social Story™ is found to conform to the guidelines.

9. Publish the finalised Social Story™. The finalised Social Story™ can be published for use by the person who will actually use the story with the identified child with ASD. Subsequently, a central pool of Social Stories™ created using this process could be made available to other teachers for their use (with the necessary modifications as appropriate) or reference.

Concluding remarks

This study has collected and analysed the opinions of a small sample of teachers in Riyadh, Saudi Arabia, regarding the use of Social Stories™ as a social skills mediation strategy for children with ASD. This study focused on the teachers' opinions concerning the success of Social Stories™ in developing three definitive social skills in inclusive general education settings. A qualitative research method, semi-structured interviews, was used to gather the teachers' opinions. This study has investigated the use and effectiveness of Social Stories™ in the context of interventions for Saudi children with ASD by studying not only the children, but also the environmental factors and their effect upon those children. Furthermore, the perceptions of teachers who worked with children with ASD and had used Social Stories™ have also been gathered.

The small sample of teachers in Saudi public schools in this study indicated a favourable attitude towards the use of Social Stories™ for children with ASD. The opinions of teachers gathered through the interviews and case studies were interpreted and compared with existing research. The main findings were presented in relation to four primary concepts: sources of Social Stories™, content of Social Stories™, the use of Social Stories™ in practice, and evaluating the effectiveness of Social Stories™. Consequently, I have developed and provided guidelines for the creation of Social Stories™ in the Saudi Arabian context. This study is the first in Saudi Arabia to explore the perspectives of teachers regarding the use of Social Stories™ for children with ASD. This study should therefore make a significant contribution to practice regarding the use of Social Stories™ as a social skills intervention for children with ASD in education settings in Saudi Arabia. These implications concern potential policy improvements in the Saudi educational context, implementation of changes, and recommendations for teachers, thus disseminating and developing understanding of the findings. These and other conclusions will be presented in the next chapter.

Chapter 8: Conclusion

Introduction

The purpose of this chapter is to reflect on the different findings from the research and to examine the various implications that have emerged. This current chapter contains a summary of the main findings from the perspective of the research questions in Chapter one. The contribution of this study to the body of knowledge related to Social Stories™ is also presented. Recommendations for policy and teachers are also provided. The chapter provides an overview of the limitations of the study. My own personal learning journey has been highlighted. The study recommends areas for potential further research.

8.1 Summary of the main findings

This study has investigated teachers' perceptions of the use and effectiveness of Social Stories™ for children with ASD in a small sample of schools in Riyadh, Saudi Arabia. The summary of the research findings pertaining to each of the research questions is presented in the subsequent sections.

Research Question 1: What are the perceptions of Saudi special needs teachers regarding the use of Social Stories™ in developing the social skills and learning behaviours of children with ASD?

In general, the study found that teachers in a sample of Riyadh, Saudi schools had favourable views of the use of Social Stories™ for children with ASD. The findings from the interviews with the teachers revealed that their overall views were similarly positive. The teachers' responses clearly indicated that they not only understood the significance of Social Stories™ for children with ASD, but also had a clear grasp of the concept, the structural and functional concepts of these stories. They commented that their schools and school colleagues were also seen to understand and support the concept and use of Social Stories™. Two teachers helped evaluate the use of the Social Story™ used in the second case study.

In terms of the sources of Social Stories™, the study found that the teachers used stories that were self-written, provided by the school or purchased at a shop in Riyadh. Social

Stories™ could also be designed and created by teachers or other caregivers after due consideration of the particular requirements of a child and the cultural connotations associated with a particular behaviour. The teacher in the first case study, for instance, used a commercially purchased Social Story™, while the teacher in the second case study used a Social Story™ he had created for the child and the teacher in the third case study used a Social Story™ provided by the school. This study found that evaluating a Social Story™'s content, both visually and culturally against standardised criteria, could ensure its readiness for use with a specific child with ASD and in a specific context. Although not explicitly stated during the interviews, it can be inferred that the participating teachers had received some training in the use of Social Stories™, as they could write and evaluate them. Furthermore, they could also recognise the issues with commercially obtained stories.

Moreover, the study found that commercially purchased Social Stories™ were often not suitable for use in Saudi Arabia, as they did not take the specific religious and cultural aspects of the country into consideration. Commercially purchased Social Stories™ did not demonstrate familiarity with the diverse needs of children with ASD or the range of situations encountered in Saudi classrooms. The study thus concluded that commercial stories could only be used after careful evaluation and subsequent modification. The current study also corroborated the findings of earlier studies (Kuoch & Mirenda, 2003; Scattone et al., (2002) and Prior, 2003) from the point of view of the effectiveness of Social Stories™ as an independent intervention and in combination with other intervention methods. The study also found that teachers must explore the use of diverse approaches such as Video modelling and PowerPoint™ to incorporating Social Stories™ in the classroom; which approach is used depends on the profile and educational needs of the child with ASD.

The participating teachers reported several positive features of Social Stories™ to develop the social skills of children with ASD. These positive features were reported as follows: simplicity of use; potential for customisation; capacity to reveal social information in a manner that is clear and reassuring; capacity to aid in developing self-care skills, social abilities, and academic abilities; effectiveness in helping individuals adapt to changes in normal routines and to surprising or troubling situations; helping children to disclose their social ideas in a less complex manner; offering children with ASD an opportunity to learn how to interact with members of a given society; teaching them how to behave properly

and become acceptable members of the community; cost-efficient and flexible to use; helping to strengthen the morale and confidence of children with ASD, particularly as they are active learners within the process; and their ease of comprehending, due to their use of simple visual aids and their descriptions of modelled positive behaviours to be emulated by the child. This could mean that children will be able to improve their social skills and interact appropriately with their peers and elders. The teachers felt that children with ASD would be able to approach the cultural context of Saudi Arabia and understand it fully, because Social Stories™ could teach them both how best to deal with social situations and what behaviours were regarded as socially acceptable. On the other hand, no specific drawbacks were highlighted during the use of Social Stories™ in the case studies. The findings from the interviews demonstrated that the use of Social Stories™ was often hampered by the inability of teachers to develop their own or customise externally produced Social Stories™ appropriately.

Barriers to the use of Social Stories™, as determined by this study, included the availability of adequate resources and technology, the range of child learning and behavioural needs and the differences in culture. This study found, for instance, that the significant role played by resources and technology in the use of Social Stories™ made it essential that these be available and freely supplied to the teachers who wanted to utilise them. Moreover, this study has found that the diverse needs and characteristics of children with ASD must be taken into consideration when planning the use of Social Stories™ with them. Culture is a factor that needs to be considered in supporting socialisation of students with ASD, hence this study found that cultural context must be taken into account when choosing (or modifying) a Social Story™ for use, as failing to do so may contribute to introducing undesirable outcomes in the child's behaviour.

This study found that different factors contributed to the use of Social Stories™ in the development of social skills in a child with ASD. In effect, the use of Social Stories™ was to be carefully planned, focusing on a child's unique needs. The input of parents, teachers and other caregivers could help in selecting the combination of interventions that could be used alongside Social Stories™ to ensure a high level of success in modifying the behaviour of the child with ASD. The suitability of a Social Story™ could be evaluated further by using various factors such as the age, gender, and family composition of the child.

*Research Question 2***:** *How do Saudi special needs teachers perceive the effectiveness of the Social Stories™ in influencing behavioural changes of Saudi children with ASD?*

The teachers' opinions of Social Stories™ were confirmed by the findings from the case studies, which explored the use of these with three behavioural constructs: talking with friends at snack break, playing with friends and greeting people at school. The teachers who were interviewed, however, also reported several limitations to the use of Social Stories™ for children with ASD. They observed that the stories were not enough in themselves to work effectively as a stand-alone behavioural intervention tool, requiring additional strategies that took a lot of time to implement and to individualise; the stories were difficult to locate, both locally and online; they depended on the writer's skill and his/her ability to understand the needs and interests of the child with ASD; the materials required to create Social Stories™ were not easily available in every library or bookshop and it took a lot of time to prepare and present Social Stories™ to children; the development of the social skills and behaviours of children was temporary and difficult to implement in the long term; and successful use of the stories depended on the pedagogical and learning behavioural knowledge and skill of the authors and, when his/her knowledge of the field of ASD spectrum disorders was insufficient, this was reflected in the content, structure and style of his/her story. These varying perceptions could be related to a lack of training and practice in the use of Social Stories™, as understood from the interviews.

The teachers who participated in the case studies reported positive views of the effectiveness of interventions using Social Stories™. The study found that the three teachers identified specific behaviours of individual children with ASD that needed to be addressed and also specific Social Stories™ that could be used to do this or to improve these behaviours. The teacher in the first case study reported that positive behaviour changes were observed in the child. He also found it difficult to determine whether the Social Story™ had independently contributed to the change in behaviour, as he felt that the ability of the child to follow instructions, take turns and stay on task were more likely to be the motivators for the success of the intervention.

The teacher in the second case study reported that the appropriateness of the child's (M) behaviour had improved, not only for the targeted setting (i.e., in the play area), but also in other untargeted settings. The teacher therefore suggested that the child's assimilation of appropriate behaviours may have occurred into these situations due to the use of the

Social Story™. The teacher in the third case study also reported favourable outcomes from the use of the Social Story™. He did, however, report that these could have been influenced by other elements as well, such as the use of an iPad®, the motivation to improve interaction with peers and with some specific adults, and the interest displayed by the child's peers in the Social Story™ and their participation in the intervention.

Research Question 3: What are the perceptions of special needs teachers concerning whether Social Stories™ can be enhanced by customisation to support children with ASD in the Saudi cultural context?

The cultural context of Saudi Arabia is distinct due to the pervasive influence of religion on the day-to-day existence of its people. Interventions for children with ASD must consequently take this context into strict consideration. This study found that the culture in Saudi Arabia could be experienced as a barrier to the use of Social Stories™. This was primarily because the commercially produced Social Stories™ presently available in the country were not found to incorporate the specific features required by its cultural and religious structures. These stories were often created in Western countries and, because of this, the content did not correspond to the rigid Saudi cultural context. The sample of teachers who participated in the study drew attention to the fact that the use of such Social Stories™ could cause further problems for a child with ASD rather than benefiting him/her. The teachers recommended either that Social Stories™ be produced in the country of their proposed use or that the users of Social Stories™ carefully evaluate each one against the required criteria prior to use and make suitable modifications (to visual or written content) before using them with a child with ASD.

The study also found that the cultural environment prevalent in a country or society, particularly in micro-regulated settings such as in Saudi Arabia, must be considered prior to the use of Social Stories™. The content (written and visual) must be carefully evaluated so that there are no discrepancies between what the child with ASD is being told by the Social Story™ and what he/she sees in the society around him/her as a starting point in his development of social skills. This study made use of Gray's (2004) guidelines and a custom-made cultural evaluation checklist to assess whether a Social Story™ was suitable for use both in the context of a child with ASD of a specific age and in the context of the country's religious, cultural and societal guidelines.

8.2 Contributions to knowledge

The present study contributes in three significant ways with regards to knowledge and practicalities. Firstly, to the best of my knowledge, this is the first study that focuses on special needs teachers' perceptions of the use and the effectiveness of Social Stories™ for children with ASD in the Arab world in general, and more specifically in schools in Riyadh, Saudi Arabia. In this sense, the study contributes to international special needs and inclusive education discussions around educational provision for children with ASD.

Secondly, the study provides a framework for the evaluation of Social Stories™ within the cultural considerations of the Saudi Arabian society. The study made use of two checklists to assess the content of the Social Stories™ utilised by the teachers in the three case studies: Gray's (2004) Social Story™ checklist and a specially prepared cultural evaluation checklist. The study also assessed each picture and the accompanying sentences utilised in the stories for appropriateness from an overall contextual and cultural standpoint. I, the researcher, tagged each component of Gray's ten-parameter checklist (Gray, 2004) according to the story attribute it endeavoured to evaluate ('content', 'structure', 'presentation' and 'context'). I further extended items 3, 8 and 9 of Gray's checklist to create a cultural evaluation checklist intended to appraise the Social Stories™ in use. This cultural checklist can ensure the readiness of a Social Story™ for use in the environment of Saudi Arabia and facilitate a discussion around cultural considerations as a starting point in the education of students with ASD. Proponents of that checklist can be considered in other countries as starting points in adapting resources for use in their respective cultural contexts. It will hopefully support discussion around preparing students with ASD as citizens of a multi-cultural world. A word of caution, however; the discussion must include the matter of taking into consideration the fact that students with ASD may become confused if presented with too many variances of what appears to be a single social interaction.

Thirdly, the study also provided a mechanism for the evaluation of a Social Story™ from both its written and visual content. Other studies (e.g., Sansosti, 2005; Wright and McCathren, 2012) reported the development of checklists ("Social Story™ Validity Checklist", "Social Story™ Construction Checklist") to examine the substance and intent of Social Stories™. These did not clearly describe which features or components of the Social Story™ were being scrutinised. Accordingly, the findings of the present study

emphasise the implementation of Social Stories™ for children with ASD, where the evaluation of stories, and their written and visual content is essentially observed. It is also worth mentioning that most of the studies with specific reference to Saudi Arabia in the fields of educational research and special education have made use of the scientific or quantitative approach and used questionnaires as the data collection method (Haimour & Obaidat, 2013, Al-Zzaalah et al., 2015). To the best of my knowledge, the current study is the first to employ a mixed methodology (interview and documentary data with some quantitative data) in the field of ASD needs in Saudi Arabia. As a result, it can offer a novel approach for social science research in Saudi Arabia as it has discussed the value of such approach in exploring educational interventions and empowering the participants' voice.

Finally, the present study recommends that educational policy makers and special needs teachers of conventional schools in Saudi Arabia to enhance the quality of Social Stories™ used for children with ASD. It is worth observing that although the findings of the present study are limited to the Saudi Arabian boys' schools, they can still be relevant for other groups, as other educational institutions in Saudi Arabia face similar challenges, operate within the same context, and are guided by a common local educational authority. The researcher intends to furnish copies of the present study to be accessed by the Saudi Cultural Bureau in London, King Fahad National Library in Riyadh, and the unit of special education needs in the Ministry of Education in Saudi Arabia. Thus, the present study offers an opportunity for teachers to convey their views to the Ministry of Education that can formulate and amend the social intervention policies and programmes. Consequently, the researcher hopes to contribute to narrowing the existing gap between teachers and the decision makers in Saudi Arabia.

Considering the outcome of the implementation of Social Stories™ for children with ASD, the practical recommendations are listed below that require the attention of the Ministry of Education and special education needs teachers in Saudi Arabia.

8.3 Recommendations

The current research has investigated a small sample of teachers' perceptions of the use and effectiveness of Social Stories™ in improving the social skills of children with ASD. Findings from the study have led to some recommendations that could be applied in

further research using a wider sample of teachers across the regions of Saudi Arabia and then, after review of carefully collected and analysed data, produce more generalisable findings. It is my hope that these recommendations will lead to the evolution of better practices for the use of Social Stories™ as a behavioural intervention approach in schools in Saudi Arabia. The following sections describe the key recommendations that have been generated based on the findings of this study, subdivided into two categories: recommendations directed to the Ministry of Education, and recommendations directed to teachers.

8.3.1 Recommendations directed to the Ministry of Education (policy)

It is important that the Ministry of Education in Saudi Arabia participate in the facilitation of the use of Social Stories™ to ensure that children with ASD receive support from this affordable, cost-effective intervention method in schools. It is hoped that Social Stories™ would be considered as one of the inclusive teaching approaches that can be utilised to support children with ASD.

- Establishing interdisciplinary teams for special needs interventions, including the use of Social Stories™. The Ministry of Education could establish interdisciplinary teams to develop appropriate and inclusive resources that can be maintained or developed further at school-level. Step 1: initiative would require a team of 'expert trainers' who understand pedagogy, learning styles, learning behaviours, and differentiated teaching. Step 2: This team could involve and train, for example, other teachers from the same or other schools, parents, and experts referred by the Ministry of Education. In the case of Social Stories™, it is recommended that the team be provided with copies of Carol Gray's guidelines for writing and developing Social Stories™™ and that these guidelines be accompanied by the procedure for evaluation of Social Story™ utilised in this study. The provision of Gray's checklist is advocated to ensure that all team members recognise the intent of the developer of the intervention technique. The team can also consider the cultural priorities that these stories can introduce to support learning, in the context of Saudi culture, to ensure that a well-rounded awareness of the culture is present in the stories. The team can then provide courses and workshops at schools to train teachers in using specialist resources as

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well as customising resources appropriately based on their students' educational needs. The team can also be involved in the quality assurance of commercial inclusive resources. Workshops and/or awareness sessions can also be conducted for parents of children with ASD to facilitate their understanding of the intervention and to show them areas where their support may be required.

- Developing resources, such as Social Stories™, in the native language, e.g., Arabic. This will help ensure that terms and phrases that the children are familiar with are used and it will also improve the probability of success of the intervention.

- Establishing standard training programmes for teachers. Special educational needs training programmes for teachers need to be established. The training can include focused workshops including ones about Social Stories™

- Including Social Stories™ in the curriculum for children with ASD. The Ministry of Education has a strategic goal of developing a curriculum for children with ASD that draws on effective programmes from across the world; aims to implement high-quality methods for instruction; and is fully digital and interactive (Almasoud, 2013). It is recommended that the Ministry include Social Stories™ in the curriculum due to the simplicity of implementing them and due to their efficiency in terms of time and expenditure.

8.3.2 Recommendations for teachers

- Recognising that teachers must consider the individual needs of a child when deciding on the Social Story™ to be used for them. As established from the literature review and the results of the current study, children with ASD are distinct individuals with disparate personalities, characteristics (e.g., ethnic group, culture, social and economic status) and needs (Rota, 2011; Burden, 1995). They have their own specific attitudes to instruction, competences, entertainment and tastes. Guldberg et al. (2011) emphasised that the distinct requirements of each child with ASD must be addressed by personalised modes of education. Consequently, prior to using a Social Story™ for a child, it is essential that the teacher carefully

considers the needs of the individual child and choose the Social Story™ that will be most beneficial to him/her.

- Using Gray's guidelines for Social Story™ development. Teachers should use the guidelines published by Carol Gray (2010) for writing and developing Social Stories™. Gray (2010) offers 10 guidelines to assist with their writing Following these guidelines ensures that tone, structure, answers to appropriate "wh-" questions, characters, language, sentence composition, adherence to the Social Story™ Formula, format, accuracy, illustrations and title of the Social Story™ are suitable for its intended use. Deviations from the guidelines can be explored to accommodate the academic capacity of the child in question (e.g., Crozier and Tincani, 2005).

- Using different media to display a Social Story™. Teachers must be flexible in their use of different media to present a Social Story™ to a child. With changes in technology, children are familiar with different media and may prefer to choose the medium in which they encounter the story (as exhibited by AA in the second case study). Furthermore, the specific academic capacity of the child could also be a factor in determining which medium would be most appropriate for use. Different media used for Social Stories™ include single sheets of paper, hard-copy booklets, computers, multimedia, iPad® and videos.

- Taking the cultural context into consideration. The cultural environment needs to be taken into consideration when formulating Social Stories™ for use in a particular country. This is an essential factor that can play a part in the teachers' attitudes, understandings and actions in working with and supporting the learning and learning behaviours of children with ASD. The findings of this study have highlighted the importance of taking such cultural aspects into consideration when employing Social Stories™. Consideration of the cultural context can therefore assist teachers and other experts who work with children with ASD to more effectively design suitable interventions for them.

- Ensuring parental involvement in the creation of Social Stories™. Parents know their children and therefore should be consulted on what will work and what will not. Also, they can provide feedback on whether any generalisation has occurred:

in other words, whether the child demonstrates the same behaviour in a slightly different context – for instance, greeting other children and adults outside school, or playing appropriately in a play area outside school.

8.3.3 General Recommendations

A few general recommendations are also provided as during the course of the study, it was found that several of the challenges that I had experienced as a fresh special education teacher in Saudi Arabia continued to persist. For example, teachers lacked awareness about autism and the range of needs of a child with autism. Moreover, the culture played a role in influencing their attitudes towards students with autism in the classroom. Hence, the following recommendations are proposed:

1. Awareness of inclusion. Parents, teachers (general and special education) and other stakeholders in the education of students with autism must be aware of the foundation and principles of inclusive education.

2. Awareness of special educational needs. Parents, teachers (general and special education) and other stakeholders in the education of students with autism require awareness of the various types of special educational needs and the different characteristics associated with each. Furthermore, they must be be aware that even within a certain manner of disability, the needs and characteristics of individual students can vary. Moreover, a solid grounding on the theories underlying disabilities such as ASD would help them understand the rationale and motivation behind the different interventions developed to assist students with disabilities.

3. Awareness of social skills interventions. Teachers (general and special education) must be provided opportunities to learn about different innovations with regard to social skills interventions and keep their skills with regard to existing social skills interventions updated. this will help them evaluate if a Social Stories™ requires the support of any other intervention to assist a student with ASD.

4. Teacher training and ongoing professional development. The Ministry of Education (MoE) must provide mechanisms for teacher training in dealing with students with special needs and also provide processes to support ongoing professional development.

5. <u>Periodic reviews and revisions of special education laws.</u> It is recommended that the MoE establish special task forces to review and revise special education laws periodically. This will serve to ensure that the current provision of special education services to students with special educational needs, in general, and with ASD, in particular, is appropriate and up to date.

6. <u>Cultural implications</u>. It is suggested that the MoE collaborate with other Ministries to review how the Saudi people can be encouraged to look beyond the Islamic and cultural perspectives of disability to embrace and support inclusive education for students with special needs in the country. This will also enhance the effectiveness of Early Intervention Programmes.

8.4 Limitations of the study

A few limitations can be observed in the study. These are described in this section.

1. This study was conducted in two mainstream schools in one city and hence the perspectives of teachers and effects of Social Story™ use were gathered from a more restricted population with apparent privileges such as access to inclusive education settings and ease of obtaining Social Stories™ or associated resources. Riyadh is the capital city of Saudi Arabia, so more facilities and resourcing are available to teachers and children with ASD there. This study did not include the perspectives of teachers from private schools and other mainstream schools in other cities, which will limit the benefits and applicability of the findings.

2. The period of the data collection was relatively short (about three months). An extended period of gathering evidence for the study might have provided more in-depth understanding and greater insights. Also, a longer duration would have helped the researcher to assess the long-term benefits of Social Story™ use for the three children from the case studies.

3. The risk in attempting to generalise the research findings is minimised by recognising the limitations of the study. This study thus adopted a method that aimed at getting a deeper insight of the research topic, but mostly ignored generalised findings over larger populations. The key focus of the present study was to comprehend the actual

usage of Social Stories™ in two conventional schools of Riyadh city. Nevertheless, the insights gained from the present study may be utilised for similar contexts, despite the fact that generalisation is not an objective of qualitative research (Cohen et al., 2007).

4. Since I am male, I could only interact with male teachers due to the cultural constraints prevalent in Saudi Arabia and the restrictive guidelines for social interaction between men and women, even in a working situation. Consequently, the perceptions of female teachers are absent from the study. This could be considered as reducing the applicability of the findings to male-dominated contexts.

5. Another limitation of the study relates to the translation of data. The interviews were performed in Arabic and I translated the data gathered from these into English. The translation from Arabic to English could have unfavourably affected the connotations or the nuances of the participants' responses. I nevertheless made every attempt to ensure an exact translation. Additionally, assistance with translation and validation was requested from numerous colleagues who were fluent in English and Arabic and who were also PhD students. It must be noted, however, that I did use the process of double translation to ensure accuracy in the translations.

6. Although the views of parents could have provided benefits to the family environment and facilitated changes in behaviour at home after the Social Stories™ interventions, the home environment was not taken into consideration in this study.

8.5 Recommendations for future research

Further studies about using Social Stories™ meant for children with ASD are suggested in this section. A number of important areas in the field of the current study are highlighted, which I would suggest require further investigation. I pose these suggestions on the basis of my research findings, knowledge and professional experience.

The present study was conducted in the participating schools in the Riyadh region and was limited to male children and participants. I would suggest that future research about children with Special Educational Needs be conducted in various regions of Saudi Arabia, including in girls' schools with input from female special education teachers. Keeping Saudi cultural values in mind, it would be beneficial for the Ministry of Education (MoE)

to promote and support female researchers to achieve the objective of conducting such research.

The current study used simple A-B-A approaches (with only a single baseline phase (A), an intervention phase (B) and a reverse baseline (A) phase) for the Social Story™ interventions in the case studies. Future studies could attempt similar interventions using modified study designs, such as the use of multiple interventions and baseline phases, and the gathering of follow-up data. Another area that could be explored in future research is the measuring of the effectiveness of a Social Story™ before and after it is modified, based on the assessments performed using the Social Story™ evaluation methodology and checklists created in this study.

Additionally, future studies could evaluate the critical components required to effectively implement Social Stories™ as a stand-alone intervention, and also study the appropriate situations and procedures for using Social Stories™ as part of broader packages of interventions. It would also be worthwhile to evaluate the merits of writing Social Stories™ in different languages to meet the individual needs of children. Future research should examine the generalisation and maintenance of any positive effects of Social Story™ usage.

A further aspect for exploration in future studies could be the investigation of the cultural perspectives of ASD using the theoretical lens of any of the theories associated with ASD, such as WCC or theory of mind.

8.6 Personal reflections on the PhD journey

My experience as a PhD researcher at the University of Reading from April 2013 to December 2016 has helped me to gain valuable insights and acquire the required skills of the research process. The subject of Autism Spectrum Disorder (ASD) was interesting, as I discovered the range of social intervention techniques that are required for supporting individuals with ASD. I had the privilege of interacting with experienced and knowledgeable teachers who imparted the confidence, beliefs and attitudes required for educating children with ASD. I also relished the opportunity of interacting with other researchers, visiting special schools in Reading UK, attending conferences, seminars, lectures and workshops. I would like to mention that I presented my research in the 17[th] International Conference on Autism held in London in 2015. My time with my university

colleagues was also a memorable one, during which we attended several lectures, workshops and seminars. I accomplished the modules (Supporting Students with Autistic Spectrum Disorder, Learners with Special Educational Needs, and Leading and Managing Educational Change) that were related to my research and interests.

My PhD journey has enabled me to formulate the values and principles of the research process and study the various methodologies of research and their practical applications. This invaluable experience increased my individual capacity of collecting, categorising, assessing and deciphering the information by generating various research tools. Additionally, I also acquired some skills such as managing time, organising priorities, managing tasks, delivering under pressure, communicating effectively, and fostering resilience that are required for finding different solutions to problems. During my PhD journey, I had to interact with my peers as well as with people who had little knowledge of the subject of ASD. All of these opportunities helped me to develop my presentation skills. I not only developed my ability to read and write from an academic perspective, but also developed the self-confidence to contribute to the academic world in a meaningful way in the near future. I was fortunate to learn something new every day throughout my time as a researcher in the field of ASD. My self-esteem and my thought process also changed quite a lot due to my knowledge being constantly updated through my research activities.

My research period was marked by some positive as well as negative moods and events, as I had left my family back in Saudi Arabia. At times, I would find myself lonely, confused, hopeless, frustrated and weak against my goal of having a well-planned and purposeful study that could be utilised for the improvement of education for Saudi Arabian children with Special Educational Needs/Autism Spectrum Disorder (SEN/ASD). My experience of sharing my research with my University peers in the Education Department has been truly a rewarding one. Further, my experience of presenting my work at local and international conferences enabled me to involve myself in academia at an interactive and personal level. The completion of my research work and my sincere hope that it will benefit others has made all the struggle and adversity I encountered during the process worthwhile.

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Appendices

Appendix A: Gray's (2004) Social Story™ Checklist

Sl #	Checklist item	Parameter	Comments
1	The story meaningfully shares social information with an overall patient and reassuring quality.	Content	A Social Story™ must be written in an affirmative tone to encourage a positive response from the target child. This is applicable irrespective of the kind of behaviour being addressed by the story.
2	The story has an introduction that clearly identifies the topic, a body that adds detail, and a conclusion that reinforces and summarises the information.	Structure	As in most formal writing, a Social Story™ can be structured with a clear introduction, body and conclusion. The introduction is used to present the topic, the body to add information and the conclusion to review and strengthen what has already been described.
3	The story provides answers to the relevant "wh" questions.	Content	Where-the setting When-the occasion or instance Who-other participants in the situation What-significant prompts How-principal actions or responses Why-motivation for the behaviour
4	The story is written from a first (as though the child is describing the event) or third person (like a newspaper article) perspective.	Presentation	The first person perspective is typically used for a very young or severely challenged child. The third person perspective is usually for a more advanced child, adolescent or adult.
5	The story uses positive language, omitting descriptions or references to challenging behaviours in favour of identifying positive responses.	Presentation	No mention is made of inappropriate behaviour; appropriate responses are provided.
6	The story comprises relevant or appropriate sentence types: descriptive, perspective, cooperative, directive, affirmative and control statements.	Structure	The use of descriptive statements is mandatory. Other statements can be used as appropriate.
7	The story follows the Social Story™ Formula: ratio of	Structure	Two Social Story™ ratios exist. The "basic" ratio consists of two to five descriptive,

Sl #	Checklist item	Parameter	Comments
	sentences that describe to sentences that direct >2:1.		perspective, and/or affirmative sentences for every directive sentence in the story. The "complete" additionally takes control and cooperative sentences into consideration. Irrespective of the ratio, the Social Story™ must describe more than it directs.
8	The story matches the ability and interests of the child, and is literally accurate.	Context	The use of analogies or metaphors should match the social and cultural environment of the child. The story itself should not be open to interpretation. In other words, it should not be misunderstood by an autistic child who cannot differentiate between the abstract or literal meaning of a word or picture.
9	If applicable, the story uses judiciously chosen pictures that are relevant for the child and augment the meaning of the text.	Presentation	Pictures can include graphics or cartoons or photographs of real-life scenes. Including pictures of the target child can improve his/her association with the story.
10	The title of the story meets all applicable Social Stories™ criteria.	Content	The criteria are: 6. Shares information, the topic or most important point of the story; 7. Poses or announces answers to the most important wh questions; 8. Written from a first person perspective; 9. Uses positive language or announces something the child currently does well; 10. Easily understood and interesting to the child.

Appendix B: Social Story™ Cultural Evaluation Checklist

Sl #	Checklist item	Correlation to Gray's (2004) checklist	Parameter	Comments
1	Does the dress code used in the story comply with Saudi Arabian guidelines?	Question 9	Presentation	Islam suggests that a woman should dress modestly with a covering for her hair and body. Saudi Arabia, as a Muslim-majority country, legally imposes a dress code for the female sex. Women (and girls) have to wear long, black cloaks (abayas) typically accompanied by the hijab (headscarf) or niqab (a veil for the face which leaves a slit for the eyes), or a burqa (which covers the body entirely from head to toe, leaving only a mesh for the eyes).
2	Is any interaction between the genders depicted?	Questions 8, 9	Context, Presentation	The Sharia law in Saudi Arabia forbids interaction between the genders. Segregation is strictly followed.
3	Are non-halal (forbidden) food items represented in the illustrations or referred to in the sentences of the story?	Question 9	Presentation	Alcohol, pork, blood are not halal (permitted) and hence cannot be consumed by Muslims.
4	Are any non-Islamic gestures (such as, thumbs up, OK sign) used in the illustrations?	Question 9	Presentation	Care should be exercised that these gestures are not used as these are associated with rude sexual connotations/insults.
5	Is the left hand being used to present or receive food or other items?	Question 9	Presentation	The left hand represents unhygienic practices and hence should not be used to present or receive any object (including food).
6	Are the "wh" questions answered without violating the cultural requirements?	Question 3	Content	Are the details with regard to setting, occasion, other participants, prompts, responses, and motivation, provided in compliance to the cultural requirements? For example, do the responses involve hand gestures that are inappropriate?
7	Are the facts presented in the story accurate from a Saudi perspective?	Questions 8, 9	Context, Presentation	Facts could include greetings used, school environment, snacks, and so on.
8	Are the illustrations used in the story in accordance with cultural requirements?	Question 9	Presentation	For instance, are there representations or pictures of non-halal food items, interaction between the sexes? Other objectionable items include: the toys displayed, posture, guide dogs, piggy banks, ice cream cones, blue jeans, tomatoes, cucumbers, bottoms of shoes, dogs, Barbie dolls, hand gestures (thumbs)

Appendix C: Social Story™ Date collection sheet:

Baseline phase (sessions)	A	I	NI	Intervention phase (sessions)	A	I	NI	Reversal baseline (sessions)	A	I	NI
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											

Legend	How to use this date collection sheet:
A = Appropriate I = Inappropriate NI = No Interaction	For every behaviour occurred for appropriate (A), inappropriate (I) or no interaction (NI). Mark with in the appropriate Colum.

Appendix D: Social Stories™.

Appendix D-1: Social Story™: "Talking with friends at snack time"

Figure 6.1: We have snack time at school.	Figure 6.2: Friends talk and share at snack time!
Figure 6.3: Some friends say "Hi!"	Figure 6.4: Some friends ask for a drink.
Figure 6.5: Some friends ask for more snacks.	Figure 6.6: I can say "Hi" to my friends.
Figure 6.7: I can ask for more snacks.	Figure 6.8: Friends are happy when we talk at snack time!

Appendix D-2: Social Story™ "Playing with Friends"

Figure 6.10: My name is M.

Figure 6.12: At school, I may do a lot of things. We have a play centre at school.

Figure 6.13: My friends and I can play together at the play centre.

Figure 6.14: Sometimes we use toys together. I share my toys with my friends.

Figure 6.10: I am happy to play with my friends. My friends like me when I play with them at the play centre!

Appendix D-3: Social Story™ "How to greet someone at school"

Figure 6.16: There are many ways to greet someone at school.

Figure 6.17: In the morning, I will try to say 'Good Morning' to someone.

Figure 6.18: When I see my friends or staff at school, I will try to smile and say 'May Allah's peace, mercy and blessing be upon you'.

Figure 6.19: They may say 'and you have peace and mercy of Allah' back to me.

Figure 6.20: I can ask someone 'How are you today?' They may stop to talk with me.

Figure 6.21: At dismissal time, I will try to say 'Good-bye' or 'See you tomorrow'.

Appendix E: An example for Interview Transcript *(English version)*

Part one: Teachers' experiences of using social stories™ with the aim of developing the social skills of students with autism

1. What is your conception of a social story™?

Social stories™ are a good tool but are not completely effective for ensuring psychosocial and cognitive development of students with special needs especially considering the limitations of the curriculum. Effectiveness of the method has been emphasized but it is because they are used along other methods.

2. Where do the social stories™ you have been using come from? If they were not bought, how do you produce these stories?

Sometimes I buy books from the local bookstores or get books from the library. At the school we do not have enough illustrated storybooks and it is a challenge. Several books do not also have social stories so write my own or download printable social stories online. There are lots of resources online and this has been the best source for social stories.

3. Do you favour using social stories over other strategies aimed at developing the social skills of students with autism? If you do, what are your reasons?

NO. I personally don't know if they are even effective because you can't use social stories alone and make it with the students with autism. Social stories are even cumbersome to use for students with special needs because each student has her or his own level of understanding, rate of learning, and what they are "in love with" and customizing the social stories to suit every student is just not possible unless the teacher should take the whole lifetime with one class. But they are good to be included as part of other learning strategies.

5. Oh really, How do you present the social stories to develop social skills for students with autism?

I use various methods including video presentations, computer presentations, digital strategies, PowerPoint, audio material incorporated with visual prompts. The method I sue depends on the type of social stories being presented, the number of students in the learning session, their levels of attention, and the environment or settings. Some methods of presenting the social stories are more effective than others and this is also dependent on the child's needs. For instance, when I use of technological gadgets such as computer, some students are attracted and concentrate but you still find that some of them drift their attention. Using digital tools like PowerPoint alongside projectors makes it possible to give bigger pictures and this enthralls students and the child's attention is very vital in class for learning to be effective. When I am in a room with limited space I select presentation technique that does not require bigger space. Computer based technologies

are my favorite because I am able to combine visual stories with graphic illustrations and still include appropriate audio for the students to match the visual or graphic content.

6. Umm, right. So what are the advantages and disadvantages of using social stories from your perspective?

For the advantages of social stories, they are relatively easy to implement (but I should clarify that this is so generally where the students are highly varied in learning capacity). They also require only limited of resources for the teacher to get going.

One major disadvantage is that they cannot be applied as sole learning strategies and have to be used alongside other skills acquisition methods. Secondly, they are time consuming in the long term and take too much time to achieve desired learning results. It is really effort-extensive since I have to take the perspective of each student with autism I am dealing with and effectiveness depends on how best I take that perspective which sometimes demoralizes when the objective is not achieved.

7. From your experience, to what extent social stories are effectively to improving social skills of students with autism

The most important factor is teachers' understanding of every student's learning needs. Without knowing what each student needs, it is impossible to move anywhere with social stories. Another factor proper construction of the social stories that are relevant to the social situation or event. Poorly developed social stories in terms of length and timing or presenting to the wrong child can be a big pitfall on the part of the teacher. I think presentation strategy is also a factor to consider. As a teacher, I have to know which methods or media of presenting the social stories get the best of the students' attention.

My past experience has taught me that social stories are effective in improving the "theory of mind" of children with autism. Studies have shown that daily social life lies on the capacity to examine the behavior of other individuals based on their mental status. For example, their personal goals, beliefs and emotions, which has to be achieved through cognitive system that are entails theory of mind? Because of children with autism lack theory of mind, it becomes hard for them to interact. However, social stories greatly help them to achieve these interactions. This underlines the effectiveness of social stories in helping children with autism to improve their social skills.

8. What are the specific barriers you face when using social stories for developing the social skills of students with autism?

Diversity of needs of the students is a huge barrier since it is not possible to come up with a one-fit-all social story for the students. Limitations of culture and norms dictate extent to which social stories can be used. This is a heavy barrier because it limits and kills creativity hence some students that need particularly developed social stories may not be able to learn from them due limitations of culture. Time limitation is also a barrier. You see, we follow a curriculum and this is time-based. These children with special needs

require longer time to learn the skills and social stories also need longer time to help the students. That time is never there and it translates into pressure on the teacher.

As I have stated before, children with autism have special needs and therefore teaching them requires additional resources not just in terms of time, but also facilities for example classes and class materials in terms of learning materials. For example to effectively teach social stories, we need projectors in each class so that we can easily display the images for on the projector for each student to see and learn. But in a number of cases these projectors are not availed or they need repairs and it takes time for them to be repaired. This is a big challenge in using the social stories, since it reduces the effectiveness of these stories.

To what extent are different types and forms of social stories appropriate in terms of developing the social skills of students with autism, given the cultural specifics of Saudi Arabia?
Taking the cultural perspective of Saudi Arabia, there is a great challenge in using social stories though I personally do not favor their use as much. Cultural rigidity extremely limit the effectiveness, at least from my view, and I would have wished there was a way to compare achievements here to some other country, say Canada or even the United Kingdom. Moreover, Saudi Arabia as an Islamic country with Islamic law that governs every part of life, not any social story can be allowed in the classroom. While this can be taken as ensuring uniformity, it is not very easy to come up with standard social stories to tell all students in all generations. Social stories that touch on shaping students' social skills incorporated with the understanding of Islamic implications of various social settings are effective and appropriate to be used in class. I have held the view that social stories on their own are not appropriate for developing the desired skills in students with autism. The cultural specifics of Saudi are complex and made up of intricate cultural norms that make it difficult to effectively bring them out using social stories alone. I remember some time back we had an exchange program with teachers from Canada and one of the teachers had a visual social story about how to reconcile and make up with friends. At the end of the reconciliation, the two students kissed and held hands. This as much as it was a social story, it was not appropriate but genuine.

The above example underlines how culture can limit the use of social stories in the class. It is difficult to produce social stories that will always adhere to the cultural practices of our society. More so, within our society, we have differences in culture in terms of regions and clans. This means that it that while one social story may be cultural correct in one setup, it may not be appreciated in another. As such my experience in this field has shown that cultural aspects may limit or advance the use of social stories in Saudi Arabia.

What are the specific factors from your perspective that are crucial for facilitating more effective utilisation of social stories with the aim of developing the social skills of students with autism?

A teacher should repeat the stories several times and ensure that the students have understood the stores. Apart from this, a teacher should as well use pictures and images to describe the stories that he is using, these two methods greatly increases the effectiveness of the stories. Another approach would be using the available technologies like computers to run videos or using projector to show the videos or slides, this will as well increase the ulilisation of the stories.

Another important factor that cannot go without being mentioned is the experience of the teacher. It has be shown teachers who have many years of teaching children with autism have better skills and knowledge of how to handle children with autism and therefore know how best to utilize the social stories. Indeed, this is true with me, in my first year of teaching children with autism, I was not effective in using the social stories, but with the passing of each year, I have improved on my teaching skills and my knowledge of children with autism. Accordingly, my past experience has increased the knowledge and therefore allowed to be more effective in my application of social stories.

Appendix F: Approval from Research Ethics Committee - Reading University

University of Reading
Institute of Education
Ethical Approval Form A (version of September, 2013)

Tick one:
Postgraduate project: PhD

Name of applicant(s): **Faihan Alotaibi**

Title of project: **Teachers' perceptions of the efficacy of social stories in the development of social skills for students with autism in Saudi Arabia**

Name of supervisor (for student projects): **Dr. Andrew J. Kempe and Dr. Yota Dimitriadi**

Please complete the form below including relevant sections overleaf.

	YES	NO
Have you prepared an Information Sheet for participants and/or their parents/carers that:		
a) explains the purpose(s) of the project	√	
b) explains how they have been selected as potential participants	√	
c) gives a full, fair and clear account of what will be asked of them and how the information that they provide will be used	√	
d) makes it clear that participation in the project is voluntary	√	
e) explains the arrangements to allow participants to withdraw at any stage if they wish	√	
f) explains the arrangements to ensure the confidentiality of any material collected during the project, including secure arrangements for its storage, retention and disposal	√	
g) explains the arrangements for publishing the research results and, if confidentiality might be affected, for obtaining written consent for this	√	
h) explains the arrangements for providing participants with the research results if they wish to have them	√	
Ii) gives the name and designation of the member of staff with responsibility for the project, together with contact details, including email addresses. If any of the project investigators are students at the IoE, then this information must be included and their name provided	√	
k) explains, where applicable, the arrangements for expenses and other payments to be made to the participants	(N.A)	
j) includes a standard statement indicating the process of ethical review undertaken at the University for the project, as follows: 'This project has been reviewed following the procedures of the University Research Ethics Committee and has been given a favourable ethical opinion for conduct'.	√	
k) includes a standard statement regarding insurance: "The University has the appropriate insurances in place. Full details are available on request".	√	
Please answer the following questions		
1) Will you provide participants involved in your research with all the information necessary to ensure that they are fully informed and not in any way deceived or misled as to the purpose(s) and nature of the research? (Please use the subheadings used in the sample Information Sheets on Blackboard to ensure this).	√	
2) Will you seek written or other formal consent from all participants, if they are able to provide it, in addition to (1)?		√
3) Is there any risk that participants may experience physical or psychological distress in taking part in your research?		√
4) Have you taken the online training modules in data protection and information security (which can be found here: http://www.reading.ac.uk/internal/imps/Staffpages/imps-training.aspx)?	√	
5) Have you read the Health and Safety booklet (available on Blackboard) and completed a Risk Assessment Form to be included with	√	

	YES	NO	N.A.
this ethics application?			
6) Does your research comply with the University's Code of Good Practice in Research?	√		
	YES	NO	N.A.
7) If your research is taking place in a school, have you prepared an information sheet and consent form to gain permission in writing from the head teacher or other relevant supervisory professional?	√		
8) Has the data collector obtained satisfactory DBS clearance?			√
9) If your research involves working with children under the age of 16 (or those whose special educational needs mean they are unable to give informed consent), have you prepared an information sheet and consent form for parents/carers to seek permission in writing, or to give parents/carers the opportunity to decline consent?			√
10) If your research involves processing sensitive personal data[1], or if it involves audio/video recordings, have you obtained the explicit consent of participants/parents?			√
11) If you are using a data processor to subcontract any part of your research, have you got a written contract with that contractor which (a) specifies that the contractor is required to act only on your instructions, and (b) provides for appropriate technical and organisational security measures to protect the data?			√
12a) Does your research involve data collection outside the UK?	√		
12b) If the answer to question 11a is "yes", does your research comply with the legal and ethical requirements for doing research in that country?	√		
13a). Does the proposed research involve children under the age of 5?		√	
13b) If the answer to question 12a is "yes": My Head of School (or authorised Head of Department) has given details of the proposed research to the University's insurance officer, and the research will not proceed until I have confirmation that insurance cover is in place.			√
If you have answered YES to Question 3, please complete Section B below			

PLEASE COMPLETE **EITHER SECTION A OR B** AND PROVIDE THE DETAILS REQUIRED IN SUPPORT OF YOUR APPLICATION, THEN SIGN THE FORM (SECTION C)

A: My research goes beyond the 'accepted custom and practice of teaching' but I consider that this project has **no** significant ethical implications.	√
Give a brief description of the aims and the methods (participants, instruments and procedures) of the project in up to 200 words. Attach any consent form, information sheet and research instruments to be used in the project (e.g. tests, questionnaires, interview schedules). Please state how many participants will be involved in the project: 25 Teachers *This form and any attachments should now be submitted to the Institute's Ethics Committee for consideration. Any missing information will result in the form being returned to you.*	

This study aims to investigate the efficacy of social stories in developing the social skills of students with autism at two educational institutions in the city of Riyadh, Saudi Arabia. In this regard, the focus will be on how social stories can support three specific abilities in the context of social skills:

a. an ability to initiate interaction with peers, family members and others

b. an ability to maintain this interaction

c. an ability to respond adequately to interaction initiated by others.

It is of particular importance to examine how this efficacy is affected by the fact that these stories might not originate in the same cultural setting in which they are being used; this is especially relevant given the cultural

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[1]Sensitive personal data consists of information relating to the racial or ethnic origin of a data subject, their political opinions, religious beliefs, trade union membership, sexual life, physical or mental health or condition, or criminal offences or record.

specifics of the Saudi society.

This study will employ qualitative methodology. There will be two stages: first: Exploratory (Interviews), the researcher will conduct semi-structured interviews with 25 teachers from these two educational institutions. Second: case studies (social stories) will be conducted with teachers by using documentary data.

In keeping with the ethical regulations of the University, all the participants will be asked for their informed consent. All participants will be involved in the study on a voluntary basis and will have the right to withdraw from the project at any time. An initial letter that outlines the particulars of the research will be sent to the head teachers of both schools to invite them to the study and request permission to forward the consent letters to their teachers. A copy of the teachers' questionnaire and key interview questions will be included in that correspondence. The interviews will be transcribed and along with the data from the questionnaires will be examined in relation to the research questions and literature on teachers' perceptions of the effectiveness of social stories. The outcome of this project will provide further details about the role of this particular resource in supporting the development of social skills for students with autism.

B: I consider that this project **may** have ethical implications that should be brought before the Institute's Ethics Committee.

Please provide all the further information listed below in a separate attachment.
1. title of project
2. purpose of project and its academic rationale
3. brief description of methods and measurements
4. participants: recruitment methods, number, age, gender, exclusion/inclusion criteria
5. consent and participant information arrangements, debriefing (attach forms where necessary)
6. a clear and concise statement of the ethical considerations raised by the project and how you intend to deal with then.
7. estimated start date and duration of project

This form and any attachments should now be submitted to the Institute's Ethics Committee for consideration. Any missing information will result in the form being returned to you.

C: SIGNATURE OF APPLICANT:

I have declared all relevant information regarding my proposed project and confirm that ethical good practice will be followed within the project.

Signed: Print Name: Faihan Alotaibi   Date: 25/06/2014

STATEMENT OF ETHICAL APPROVAL FOR PROPOSALS SUBMITTED TO THE INSTITUTE'S ETHICS COMMITTEE

This project has been considered using agreed Institute procedures and is now approved.

Signed: …   Print Name…Daisy Powell   Date…2/8/2014
(IoE Research Ethics Committee representative)*

*A decision to allow a project to proceed is not an expert assessment of its content or of the possible risks involved in the investigation, nor does it detract in any way from the ultimate responsibility which students/investigators must themselves have for these matters. Approval is granted on the basis of the information declared by the applicant.

Appendix G: Riyadh LEA's permission letter

<table>
<tr><td>المملكة العربية السعودية
وزارة التربية والتعليم
(٢٨٠)
الإدارة العامة للتربية والتعليم بمنطقة الرياض
إدارة التخطيط والتطوير</td><td>وزارة التربية والتعليم
Ministry of Education</td><td>الرقم: ٢٥١٩٧٨٩٦٩
التاريخ: ١٤/١١/١٤٣٥هـ
المشفوعات: ـــــــ</td></tr>
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تسهيل مهمة باحث

الاسم	السجل المدني
فيحان بن عقاب الحزيمي	١٠٢٤٨٤٩٢١٦

العام الدراسي	الغرض من البحث	الكلية	الجامعة
١٤٣٦/١٤٣٥ هـ	دراسة الدكتوراه	العلوم الإجتماعية	جامعة الملك سعود

عنوان الدراسة : فعالية إستخدام القصة الإجتماعية في تطوير المهارات الإجتماعية لدى الطلاب ذوي التوحد في مدارس المملكة العربية السعودية ، وجهة نظر المعلمين .

عينة الدراسة : معلمون .

المكرم مدير معهد التربية الفكرية للبنين (شرق ،غرب)الرياض وفقه الله

السـلام عليكم ورحمـة الله وبركاته ، وبعد:

بناء على تعميم معالي الوزير رقم ٥٥/٦١٠ وتاريخ ١٤١٦/٩/١٧هـ بشأن تفويض الإدارات العامة للتربية والتعليم بإصدار خطابات السماح للباحثين بإجراء البحوث والدراسات ، وحيث تقدم إلينا الباحث (الموضحة بياناته أعلاه) بطلب إجراء دراسته، ونظراً لاكتمال الأوراق المطلوبة نأمل تسهيل مهمته بحيث لا تؤثر على عملهم الميداني.

مع ملاحظة أن الباحث يتحمل كامل المسؤولية المتعلقة بمختلف جوانب البحث ، ولا يعني سماح الإدارة العامة للتربية والتعليم موافقتها بالضرورة على مشكلة البحث أو على الطرق والأساليب المستخدمة في دراستها ومعالجتها.

شاكرين لكم وتقبلوا تحياتي..

مدير إدارة التخطيط والتطوير
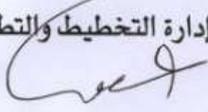
سعود بن راشد ال عبداللطيف

Appendix H: Teachers informed consent forms

Institute of Education
London Road Campus
4 Redlands Road
Reading   RG1 5EX
+44 (0)118 378 2678

University of Reading

Teacher Information Sheet and Consent Form

Research Project: Teachers' perceptions of the use and effectiveness of Social Stories™ in the development of social skills for children with Autism Spectrum Disorder (ASD) in Saudi Arabia

Researcher: Faihan Alotaibi: F.E.M.Alotaibi@pgr.reading.ac.uk
Researcher's supervisors: Dr Yota Dimitriadi(Y.Dimitriadi@reading.ac.uk) and Professor Andy Kempe (A.J.Kempe@reading.ac.uk)

I would like to invite you to take part in a study focusing on the use and the efficacy of social stories to develop the social skills of students with autism. This study is being carried out as part of my studying for PhD at the University of Reading. UK.

What is the study?

This study aims to investigate use and the efficacy of social stories in developing the social skills of students with autism at two educational institutions in Riyadh city, Saudi Arabia. In this regard, the study focused on the usefulness of Social Stories™ in improving three types of daily social interaction which children with ASD encounter in mainstream schools in Riyadh: greeting people, playing with friends, and talking with friends at snack time. It is of particular importance to examine how this efficacy is affected by the fact that these stories might not originate in the same cultural setting in which they are being used; this is especially relevant given the cultural specifics of the Saudi society. In-depth interviews will be with teachers who are working with students with Autism at two educational institutes in Riyadh city, Saudi Arabia that specialise in imparting special education to students with autism. An audio recording of the interviews and this will then be transcribed. Your transcript will be shown to you to check its veracity with your consent after it will be recorded. The data will be anonymised before being analysed.

Do I have to take part?
Your participation is entirely voluntary, insofar as you have the right to withdraw your participation at any time throughout the course of the project by sending me an email at

F.E.M.Alotaibi@pgr.reading.ac.uk. This withdrawal will not entail any consequences or questioning of your reasons for it.

What will happen if I take part?

First, if you agree, I will conduct an interview with you regarding the efficacy of using social stories to develop the social skills of students with autism. The duration of the interview is expected to be around 45 minutes. There will be an audio recording made from the interview for the purpose of its subsequent transcription. The principle of absolute anonymity will be upheld during the process of analysing the data obtained through the interview.

What are the risks and benefits of taking part?

There are no expected risks that your participation in the research project would entail. It will only take you XX minutes to be involved in the project. The key benefit connected with the participation at the project is the potential that information gathered throughout the research and subsequently shared with the Ministry of Education in Saudi Arabia will be utilised for effective use of social stories to develop the social skills of students with autism in Saudi schools.

What will happen to the data?

Any data collected will be held in strict confidence and no real names will be used. The records of this study will be kept private. No identifiers linking teachers or the school to the study will be included. Participants will be assigned a number and will be referred to by that number in all records. There will be no mention of a real name of a participating teacher or school in any documents produced as a part of the project All the data will be kept away at a secure place in a locked filing cabinet and on a password-protected computer and only myself will have access to the date; nor will these documents be accessible to public. The data will be destroyed securely after five years once the findings of the study are written up. The results of the study will be used in written PhD thesis on using social stories for students with autism and also they will be presented at national and international conferences. A paper will also hopefully emerge from the study that will be submitted to one or more education journals. I can send you electronic copies of these publications if you wish.

What happens if I change my mind?

As indicated above, the participation in this project is completely voluntary. Hence, if at any point you wishes to cease and cancel their participation on the project, you will be no questions asked or consequences incurred. Any data obtained from you have withdrawn from the project will not be stored but immediately destroyed. The same applies if you decide to abrogate your consent given prior to the interview process.

Who has reviewed the study?

This project has been reviewed following the procedures of the University Research Ethics Committee and has been given a favourable ethical opinion for conduct. The University has the appropriate insurances in place. Full details are available on request.

What happens if something goes wrong?

In the unlikely case of concern or complaint, you can contact my supervisor Dr. Yota Dimitriadi, Institute of Education University of Reading; Tel: +44 (0) 118 378 2688 y.dimitriadi@reading.ac.uk .The University has the appropriate insurances in place. Full details are available on request.

Where can I get more information?

If you would like more information, please contact me, Faihan Alotaibi; Tel: 00447956708858; Email: F.E.M.Alotaibi@pgr.reading.ac.uk

My supervisors: Dr. Andrew J. Kempe and Dr. Yota .dimitriadi.

Email: y.dimitriadi@reading.ac.uk , a.j.kempe@reading.ac.uk

What do I do next?

I do hope that you will agree to your participation in the study. If you do, please complete the attached consent form and return it to me electronically.

Yours sincerely

Faihan Alotaibi,

PhD student at the University of Reading

Research topic: Teachers' perceptions of the use and effectiveness of Social Stories™ in the development of social skills for children with Autism Spectrum Disorder (ASD) in Saudi Arabia

<u>Teacher Consent Form</u>

I have received and read the Information Sheet about the project.
I understand what the purpose of the project is and what is required of my colleagues and me.
All my questions have been answered.

Name of Teacher: _____

Name of school: _____

Telephone number: _____

Email   _____

I consent to the study being carried out   ☐

I consent to being interviewed and for the interview to be recorded   ☐

Signed:_____

Date: _____

Appendix I: The evaluation using Gray's checklist for *"playing with friends"*

Sl #	Checklist item	Parameter	"Playing with Friends"
1	The story meaningfully shares social information with an overall patient and reassuring quality.	Content	"*Playing with Friends*" complies with this requirement.
2	The story has an introduction that clearly identifies the topic, a body that adds detail, and a conclusion that reinforces and summarises the information.	Content	This story has no clear body or conclusion.
3	The story provides answers to the relevant "wh" questions.	Content	Answers are provided to WHERE, WHEN, WHO, and WHY. However, the WHAT and HOW are only partially answered or not answered at all.
4	The story is written from a first (as though the child is describing the event) or third person (like a newspaper article) perspective.	Presentation	This Social Story™ is written in the first person perspective and conforms to this requirement.
5	The story uses positive language, omitting descriptions or references to challenging behaviours in favour of identifying positive responses.	Presentation	The current story confirms to this requirement.
6	The story comprises relevant or appropriate sentence types: descriptive, perspective, cooperative, directive, affirmative and control statements.	Structure	The current story contains predominantly descriptive sentences with one perspective sentence. There are no cooperative, directive or affirmative statements.
7	The story follows the Social Story™ Formula: ratio of sentences that describe to sentences that direct >2:1.	Structure	The story does not comply with the Social Story™ formula.
8	The story matches the ability and interests of the child, and is literally accurate.	Context	The current story is aligned to the capacity of an eight-year old child and is factually accurate given the setting in the school.

9	If applicable, the story uses judiciously chosen pictures that are relevant for the child and augment the meaning of the text.	Presentation	The pictures used in the Social Story™ enhance the link between the story and the child and consequently increase the meaningfulness of the accompanying text.
10	The title of the story meets all applicable Social Stories™ criteria.	Content	The title fails to communicate the specific behaviour to be addressed for M.

Appendix J: The evaluations using cultural checklist for *"playing with friends"*

Sl #	Checklist item	"Playing with Friends"
1	Does the dress code used in the story comply with Saudi Arabian guidelines?	Yes, the dress code of shorts and t-shirt is appropriate wear for school boys in the play centre
2	Is any interaction between the genders depicted?	No.
3	Are non-halal food items represented in the illustrations or referred to in the sentences of the story?	No, the Social Story™ deals with play time behaviour and is set in the play area in school.
4	Are any non-Islamic gestures (such as, thumbs up, OK sign) used in the illustrations?	No
5	Is the left hand being used to present or receive food or other items?	No
6	Are the "wh" questions answered without violating the cultural requirements?	Yes
7	Are the facts presented in the story accurate from a Saudi perspective?	Yes
8	Are the illustrations used in the story in accordance with cultural requirements?	Yes

Appendix K: The evaluation using Gray's checklist for "*How to greet someone at school*"

Sl #	Checklist item	Parameter	"How to greet someone at school"
1	The story meaningfully shares social information with an overall patient and reassuring quality.	Content	The current story conforms to this requirement.
2	The story has an introduction that clearly identifies the topic, a body that adds detail, and a conclusion that reinforces and summarises the information.	Content	This Social Story™ does not conform to this requirement, as it does not have a clear conclusion.
3	The story provides answers to the relevant "wh" questions.	Content	The current story provides answers to: WHERE, WHEN, WHO, WHY, WHAT and HOW. However it does not answer the WHY.
4	The story is written from a first (as though the child is describing the event) or third person (like a newspaper article) perspective.	Presentation	AA's Social Story™ is written in the first person perspective and thus conforms to requirements.
5	The story uses positive language, omitting descriptions or references to challenging behaviours in favour of identifying positive responses.	Presentation	The story conforms to this requirement.
6	The story comprises relevant or appropriate sentence types: descriptive, perspective, cooperative, directive, affirmative and control statements.	Structure	The current story contains predominantly descriptive sentences and directive statements.
7	The story follows the Social Story™ Formula: ratio of sentences that describe to sentences that direct >2:1.	Structure	The current story does not comply with the Social Story™ Formula as there are more direct (directive) statements in comparison to descriptive (descriptive + perspective + cooperative + affirmative) statements.
8	The title of the story meets all applicable Social Stories™ criteria.	Content	The title of the story conforms to this requirement.
9	If applicable, the story uses judiciously chosen pictures that are relevant for the child and augment the meaning of the text.	Presentation	The story conforms to this requirement.

Sl #			
10	The title of the story meets all applicable Social Stories™ criteria.	Content	The title of the story conforms to this requirement.

Appendix L: The evaluations using cultural checklist for "*How to greet someone at school*"

Sl #	Checklist item	"How to greet someone at school"
1	Does the dress code used in the story comply with Saudi Arabian guidelines?	The dress code followed by the boys (shorts and t-shirt) and the male teachers (trousers, shirt, tie and coat) is appropriate.
2	Is any interaction between the genders depicted?	The peers shown in the Social Story™ visuals appear to be boys in the same age group as AA, as can be expected in a boys' school. No interactions are shown with female staff in the school.
3	Are non-halal food items represented in the illustrations or referred to in the sentences of the story?	No, the Social Story™ is set in the school classrooms and corridors.
4	Are any non-Islamic gestures (such as, thumbs up, OK sign) used in the illustrations?	No
5	Is the left hand being used to present or receive food or other items?	No
6	Are the "wh" questions answered without violating the cultural requirements?	Yes
7	Are the facts presented in the story accurate from a Saudi perspective?	Yes, the greetings used are common ones in the country.
8	Are the illustrations used in the story in accordance with cultural requirements?	Yes