

The use of Social Story DVDs to reduce anxiety levels: a case study of a child with autism and learning disabilities

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The study outlined here was an attempt to examine the use of Social Story DVDs as a single-intervention approach in addressing the issue of anxiety around turn taking in a child with dual diagnosis of autism and learning disability. The child selected was in a school for children with additional needs. The child was taught in a daily session focusing on the Social Story DVD materials around 'turn taking' and accompanying 'turn-taking' activities. Immediate peers were also included in the 'turn-taking' sessions and the child would incorporate these skills with his peers in the classroom setting. The results showed that only through combining strategies and combining interventions can the diverse range of individual needs of those with autism spectrum disorder (ASD) and learning disability be met. Using a sole intervention to address specific social deficits misses the complexity of ASD and each individual's uniqueness.

Keywords: autism spectrum disorder, Social Story DVDs, turn taking, single-intervention approach, dual diagnosis.

Introduction

The social challenges facing individuals with autism spectrum disorder (ASD) and those they interact with cannot be underestimated. Lack of social understanding arising from cognitive factors frequently leads to confusion,

inappropriate behaviour and isolation (Attwood, 1998). Challenging behaviour due to misinterpretation of social cues can manifest itself in many ways such as self-harm, aggression and other challenging situations. The child with whom I work can become aggressive to others and display destruction to property if he is not chosen to perform tasks. He has difficulty processing the concept of turn taking and therefore his behaviour can lead to episodes of exclusion in certain core subjects. The Social Stories approach developed in America by Gray (1994) hopes to provide a vehicle for teaching individuals with ASD about the minds and perspectives of others and can be useful for revealing the 'hidden social code' (Howley and Arnold, 2005). Social Story DVDs describe social situations in terms of relevant social cues and responding appropriate behaviour.

Although many strategies exist to address this core deficit, the team of professionals at the school where the child is based felt it appropriate to use a visual learning programme as he produces drawings to explain his feelings and emotions and he seems very receptive to visual learning. The Social Stories approach embraces learning styles. Mesibov and Howley (2003) have looked at the learning styles of individuals with ASD and it is widely agreed that the use of visual support and visual teaching are, for many, effective intervention strategies. The Social Story approach embraces this particular style of thinking and learning. Howley and Arnold (2005) show evidence that the use of Social Stories has grown in recent years and many users of the approach provide anecdotal evidence of their success. Gray (1998) also reminds professionals that it is a relatively simple and relatively inexpensive technique for teachers and practitioners to implement.

Context

The need to develop interaction is reflected in the National Curriculum (DfEE/QCA, 1999), which identified working with others as a key skill for all pupils, stating that 'if pupils are to work with others they must develop social skills and a growing awareness and understanding of others' needs' (p. 21). Social Stories is an intervention that is designed to provide a person with autism with the social information they require to cope in a given situation. The positive and sensitive nature of Social Stories coupled with their clear structure and individual focus enables many children with autism to overcome a range of complex and confusing situations. The permanence of the text and illustration allows the child to revisit the story in order to consolidate developing concepts. Williams and Wright (2004) suggest that the fact that the story is written down and the child's name is included in it and is clear about what happens seems to be a very powerful way of helping children learn and understand social behaviour. However, there has been significant debate around their success in improving understanding of social concepts for ASD children and adults alike. In describing Social Stories, Gray (2003) has stated that:

'A social story is a process that results in a product for a person with Autism Spectrum disorder (ASD). First as a process, a social story requires consideration of – and respect for – the person with ASD. As a product, a social story is a short story – defined by specific characteristics – that describes a situation, concept or social skill using a format that is meaningful for people with ASD. The result is often renewed sensitivity of others to the experience of the person with ASD, and an improvement in the response of the person with ASD' (Gray, 2003, p. 1).

According to Gray (1998), Social Stories have been used to decrease fear and aggression, introduce changes in routine, teach academic skills and teach appropriate social behaviour. However, Scattone *et al.* (2002, p. 211) remind us that 'Gray herself has not empirically validated their use'. Smith (2001) has identified that little systematic evaluation of the Social Story approach has been undertaken in either the USA or the UK. Rowe (1999) describes in detail a successful intervention in a mainstream school with a primary-aged youngster, while Attwood (1998) gives a brief outline of the technique and comments that it 'is proving remarkably effective in enabling the child to understand the cues and actions for specific situations' (p. 33). Scattone *et al.* (2002) used a multiple baseline to demonstrate that Social Stories were effective in reducing behaviour in two seven-year-old children with ASD. Smith (2001) concludes that Social Stories result in a shift in social understanding and have a positive impact on behaviour. This is also reflected in Rowe's (1999) study in which a pupil indicates: '*now I'll know what to do*'; the pupil was able to begin to understand why he should behave in a particular way. Howley and Arnold (2005) acknowledge that many of the studies are small scale but 'such studies are helpful in developing a growing body of knowledge in the efficacy of the approach'

(p. 25). Swaggart and colleagues (1998) were the first to validate this intervention empirically by teaching a young girl with autism appropriate greeting behaviour and two boys – one with autism and one with pervasive development disorder – how to share. Swaggart *et al.* (1998) observed a reduction in aggression as well as an increase in appropriate greetings and sharing.

Scattone *et al.* (2002) noted in their study on the use of Social Stories as a sole intervention for three children with ASD that an increase in appropriate social interaction occurred for two of the participants after the intervention was implemented. Appropriate social interactions for one child did not change after the introduction of the story. The findings suggested that Social Stories may be effective for some children with ASD; however, 'the population they best serve has not been fully identified' (Scattone *et al.*, 2002, p. 211). Scattone *et al.* (2002) also concluded that when used as the sole intervention Social Stories are limited in their effectiveness in improving appropriate social behaviour.

Norris and Datillo (1999) created three Social Stories to improve a young girl's initiations and responses to peers during lunchtime. The results showed that all interactions decreased and they concluded that Social Stories may need to be part of a treatment package that includes other interventions when targeting behaviour as complex as social situations and responses.

Although there is limited empirical evidence on Social Stories, studies conducted by researchers in the field of autism do suggest that Social Stories work. In part, researchers believe Social Stories address a major issue in autism: lack of 'theory of mind'. The stories provide children with clear information about how others might feel and respond. Social Stories may reduce anxiety and build confidence. So far, though the research is positive, the studies conducted are small and limited; however, the Social Story approach is being used as an intervention for many children with autism and other pervasive development disorders. The idea is to write a short story about the child and it is hoped that after several occasions the child will internalise the words and hear them from his or her own head.

Gathering evidence

The child with whom I work has presented behaviours around the issue of turn taking. This can manifest in a variety of ways, some being detrimental to the child's well-being and self-esteem, and therefore has significant effects upon his life opportunities. The child attends a local primary school and his Statement of special educational needs identifies his diagnosis as autistic spectrum disorder with associated learning disability. The speech and language therapist provides programmes of work to help with his prediction skills and theory of mind. As his teaching assistant and behavioural support I am responsible for his social learning and behaviour management.

The child was finding PE and swimming very problematic. He was becoming very isolated from his immediate social circle due to his aggressive outbursts. This was based around turn taking to demonstrate activities in both lessons. He would become physically aggressive towards others if it was their turn to be chosen to demonstrate an activity such as a diving technique. During swimming he would pull other children under the water if they had taken a turn and he had not. This of course was totally unacceptable behaviour and presented the staff team with many safety issues. On several occasions he would have to be withdrawn from the lessons and his anxiety states could last for more than 30 minutes at a time, a very distressing time for both the child and teaching assistant. The duration and intensity of the mood states were of serious concern to all and it was felt that an intervention was desperately needed. For this assignment I observed the child and recorded his lack of understanding around turn-taking concepts. I gathered this baseline data in order to measure improvements after the Social Story intervention was introduced. It was decided to use the Social Story as a sole intervention due to the urgency of the situation and the simplistic nature of the approach.

PE took place three times a week and swimming twice a week. It was clearly evident through the child's recognised and established communicative gestures that he was enjoying a substantial amount of activities during the lessons, so complete withdrawal was not an option. For the first several weeks of observation I had recorded triggers using the STAR approach (Zarkowska and Clements, 1994). This approach records behaviour under four headings of settings, triggers, actions and results. It is also very important when using this method that the teaching assistant and other persons are aware of all the issues the child has, for example sensory perceptual issues, etc. I also recorded duration and intensity of behaviour as indicators of potential improvements when the intervention was in place. I observed the child for a three-week period.

After analysis of the results it was clear that not being chosen to demonstrate activities or taking a turn was causing huge anxiety surges in the child. The behavioural displays lasted around 30 minutes in duration and had high-intensity actions. The actions would include verbal abuse, self-injurious behaviour, aggression towards others, especially the child who had been chosen to do an activity, and destruction of property. It was difficult to reason with the child without an intervention to help him to understand socially the concept of turn taking. This was a serious situation as his life opportunities and quality of life were becoming seriously affected by his lack of social understanding.

As described earlier, in order to reduce the child's anxiety levels and to increase his social understanding and social awareness, Gray's Social Story DVD 'Turn taking – a social concept' was used along with the recommended turn-taking games. At a multidisciplinary team meeting it was decided that the Social Story DVD entitled 'Turn taking' would be played to the child 15 minutes prior to each PE and swim-

ming lesson as these sessions were causing a great deal of distress to the child. It was also decided that a turn-taking game that included a peer would be played on the bus journey to the pool. This game could be as simple as 'I spy' with the teaching assistant giving a verbal instruction: 'my turn, your turn, Tina's turn', etc. All children involved in his swimming group took turns taking part in a game with the child. It was hoped that this would keep the concept fresh in the child's mind, enable easier recall and allow the child time to internalise the social concept. The story was also printed off as a visual reminder for the child while the activity was taking place. The teaching assistant would carry a Social Stories file to use as social commentary when situations arose unexpectedly. It was also hoped that the printed format would help the child recall the Social Story DVD.

Results

It was hoped that this method would improve social learning and internalise social behaviour so that real learning could take place. Over the first swimming session three turn-taking incidents occurred and on one occasion the child needed to be removed from the activity. The teaching assistant used this time out to play a turn-taking game and relate it to the incident that had occurred. The child continued to attend swimming and protocol was followed at all times. Games were played on each bus journey and the Social Story DVD was played on each occasion and complemented by the teacher who would verbalise turn taking to all children. By the sixth swimming session the child was able to reason that it was all right to take turns and that if it was not his turn today he could be chosen another day. No physical aggression towards others had taken place. Any signs of anxiety would last for approximately three or four minutes and the recounting of the Social Story seemed to help the child understand the social concept of turn taking within his immediate social circle. It was a very positive outcome for the child. The intensity of his emotions had been reduced dramatically and it appeared that learning had taken place within the setting. Incidents of challenging behaviour had been reduced in terms of duration and intensity.

The same intervention using the same structure was implemented for PE lessons. The child's behaviour was observed over a three-week session and the only identifiable difference was the group size and year mix. Swimming was taking place with Year 7 boys only; however, PE was a much larger group with peers outside the child's immediate social network. The child had real difficulties controlling his behavioural outburst during PE. At each outburst the child was removed from the session and then the Social Story was shown to the child on a laptop. The child was then allowed to enter the PE session once again; however, the child would attack children he was very unfamiliar with if they were chosen to demonstrate activities such as how to throw a basketball correctly. The child's levels of intensity of his attacks had not decreased during PE. They were remaining at a constant and it was clear that the intervention had not

been successful during PE sessions. The child had sensory perceptual issues around noise levels and the gym exacerbated noises and voices and the child would hold his hands over his ears for a significant amount of time during PE sessions. This behaviour did not manifest during swimming lessons. The learned behaviour and the understanding of the turn-taking concept did not seem to have been generalised over multiple contexts. This in itself is characteristic of children with ASD. Weak central coherence means that pupils with autism are often unable to generalise skills. The extent to which the child benefited from using the Social Stories was unclear. Previous work in children with ASD has found that they have difficulty generalising new behaviours or skills to a new context (Hagiwara and Myles, 1999). This was certainly evident in the child with whom I work.

Conclusion

It was evident that another intervention was needed to run alongside Social Stories if the child's sensory issues were to be taken seriously. It would have been possible to use Auditory Integration Training and this is being investigated. The Social Story DVD approach also seemed to depersonalise the story and it was necessary to write a story based around swimming and PE for turn taking as opposed to just a video modelling clip. The intervention then started to become time-consuming as the inability to transfer the skill of turn taking into a new social context suggested a new story was needed for every turn-taking incident to include every new individual that the child was in contact with. Williams and Wright (2004, p. 53) suggest that weak central coherence means that children with ASD have difficulty in 'getting the gist' and this applies to the child's use of language as well as his understanding of pictures, stories, events and objects. The focus of attention can be around detail rather than an appreciation of the whole event. It is difficult to know if Social Stories as an intervention can be effective for the child with ASD when weak central coherence is present. Williams and Wright (2004) also remind professionals that children with weak central coherence may miss the sociable aspects of game playing and want only to win and this may be the difficulty for the child with whom I work.

It was clear that the skill of turn taking had been learned with immediate peers and reinforced on all bus journeys with immediate peers but when the intervention was used within an unfamiliar social group the child focused in on unfamiliar peers, and this impacted quite negatively on the success of the Social Story. It was becoming evident that it was necessary to combine strategies and build these around the triad of impairment including sensory and environmental factors. To ignore the wide range of needs would be detrimental to any Social Story intervention. As the child experiences much frustration in PE and swimming and he releases some of his tension by hitting others, his positive programme of support may include: a reassessment of his

fine motor skills; increase in positive interactions with peers; general instruction regarding social skills; and specific teaching of safety rules in order to facilitate successful swimming lessons. One thing is certain: intervention strategies are necessary to help the child with ASD understand the 'hidden curriculum' (Howley and Arnold, 2005) that neuro-typical children find so easy to decipher. Only through combining strategies and combining interventions can the way forward be found.

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