

Cognitive Science in India

Winning Young Scientists

Editors

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Developing Social Cognition among Children with Autism Spectrum Disorder through Social Stories

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Social stories were developed in order to support individuals with autism to better cope with social situations.

- Ali and Frederickson (2006)

Autism is a psycho somatic disorder - a condition that affects mental and physical well being. In fact autism is not a single disorder rather a group of ailments that is classified as autism spectrum disorders (ASD). Autistic children have problems with social interactions. They may also encounter problems with verbal and non-verbal communication, exhibit pattern of repetitive behavior with narrow, restricted interests, hyper sensitive to light, sound, touch etc (sensory overload). It has been observed that incidence of autism is more among boys than girls. 'Autism in India 2010' reported that it is a fact that autism affects 1 in every 150 people worldwide and that it is the fastest growing disability with an annual growth of 10-17%. In India, it is estimated that there are 1.7 million autistic persons in the country. However the majority of autistic people in India

has not been diagnosed and do not receive the services they need. Children with autism experience difficulties with social interaction. A common strategy for dealing with this is using social stories to help individuals on the autism spectrum to understand social situations and develop varying concepts. Appropriate social behaviors are explained in the form of a story.

Social stories were first used by Gray, Educator, in 1991, and are used to help break down a task or social situation into smaller steps with descriptive words and pictures. They are most commonly associated in being used for children who have a Pervasive Developmental Disorder (PDD) which includes Autism Spectrum Disorders (ASD) and Asperger's Syndrome. Social stories, however, can be used for any child with special needs who has social/emotional developmental delays. Children with autism are often visual learners, so the story includes drawings, pictures, and even real objects. In this study the colour concept is particularly thought through stories at social context. A checklist was used to check the acquisition of skills before and after intervention.

Need for the study

Social Stories were devised as a tool to help individuals on the autism spectrum better understand the nuances of interpersonal communication so that they could interact in an effective and appropriate manner. Social stories aim to support children with ASD by targeting particular behaviours through describing the situation and explaining other people's perspectives. Most social stories direct the child as to what the desired behaviour would be in the social situation (Gray, 2004). They can help to eliminate aggressive behavior in children (Benish & Bramlett, 2011). They also work well for telling about a new experience related to an event. Social stories help children with autism to develop concepts and appropriate social behaviours and skills (Gray & Garand, 1993; Delano & Snell, 2006).

Social story may include routine activities such as going to the grocery store to prepare for birthday celebration etc. Now-a-days, social stories are available in books on market yet the advantage of creating own social stories is that we can use pictures of family members and familiar objects and places within the story. In this present study social story was developed to teaching colour concept. The investigator is made to analyse the change in appropriate behaviour along with the social cognitive development of the child before and after intervention.

Objectives

The major objectives of the study are to

- i. Identify individuals with autism between the age 8 – 12 years.
- ii. Develop social stories for teaching colour concept.
- iii. The investigator evolved a checklist on concept and social development.
- iv. Give intervention through social stories.
- v. Post test is conducted to check their social cognitive development.
- vi. Analysis the performance of individuals.

Scope of the study

- i. Aids in enlightening the students to attain appropriate concept and social skills.
- ii. Promotes the rate of involvement and attention of individuals in class.
- iii. Meltdown aggressive behavior in children.
- iv. Aids in personality development.

- v. Equal opportunity, protection of rights and full participation can be attained.
- vi. Incorporation of social stories in the curriculum.

Hypotheses

- i. There will be no significant differences in the Concept development of autism children before and after Intervention with respect to gender.
- ii. There will be no significant differences in the social development of autism children before and after Intervention with respect to gender.
- iii. There will be no significant differences in the concept development of autism children before and after intervention with respect to type of family.
- iv. There will be no significant differences in the social development of autism children before and after intervention with respect to type of family.
- v. There will be no significant differences in the concept development of autism children before and after intervention with respect to locality.
- vi. There will be no significant differences in the social development of autism children before and after intervention with respect to locality.

Review of Literature

Although social stories have been recommended as an effective intervention for children with ASD since the early 1990s, the research on their effectiveness is still limited. Research to-date indicates that social stories may be effective in improving adaptive behavior or reducing problem behavior, especially if used with applied behavior analysis methods (Swaggart et al., 1995). However, children on the autism spectrum will only benefit from this approach if they are able to communicate in sentences

that connect different ideas to each other. Koegel et al., found that the possibility of identifying pivotal response classes of social communicative behavior that may facilitate the understanding of social behavior in autism as well as improve peer interactions, social integration, and social development. Chan (2009) found that appropriate social behaviours increased and inappropriate behaviors decreased through Social Stories. Social stories are seen as effective as long as they are suited to the child's communication skills. 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, 2010).

As with many interventions for ASD, more empirical research with larger numbers of children involved is needed to fully qualify social stories as an evidence-based intervention. Social stories are neither considered well established, nor considered probably efficacious. Thus more researches have to be encouraged to find out the effectiveness of social stories on children with autism.

Methodology

Quasi experimental method is used for the collection of data. The samples were selected using purposive sampling method. Twenty samples constituting 10 boys and 10 girls of age 8 to 12 years with ASD were selected for the study. The sample was selected from special schools in Coimbatore. The investigator prepared a social story on colour concept and improving the behaviour through the story and classroom situation. Pre and posttest was conducted before and after intervention. The investigator developed a checklist of 20 items of concept and social skill development. Gesture prompt, verbal prompt, independent were the parameters of rating. The scores were allocated as for every independent task achieved carried three scores, the task completed with verbal prompting had two scores and gesture prompt was marked one. The independent variables of the study were gender, locality and type of family. The dependent variables were concept and social skill development through social stories.

Results and Discussion

Concept Development with respect to Gender

No significant difference was found in the concept development of autism children before and after intervention with respect to the gender. Among boys, 80-90% of them were able to identify the shapes and name the colour through gestures. After intervention it was considerably reduced to 10%. Initially none of them were independent in these skills but after intervention 50% showed independency in their performance. As far as arranging the letters of the colour and reading the names of the colour, 10% were prompted verbally before intervention against 70% after intervention.

When comparing with girls 70-80% of children were able to identify sort and match colours through gestures and after intervention 30-40% of them were able to do it independently. Ninety percent of girls were able to read the names of the colour verbally.

Similarly in all skills there was an increase in independence and a decrease in gesture category. It may be said that social stories effect a phenomenal increase in the concept development among the children with autism.

Social Development with respect to Gender

There will be no significant differences in the social development of autism children before and after intervention with respect to gender. 80-90% of boys were able to indicate wants, seek permission and repeat the story through gestures. After intervention it was noted that 20-30% of individuals were able to do it independently. Initially only 10% of boys were independent in responding to own name but after intervention 50% of them were independent in responding to their name. As far as greeting, offering help, say please, and introducing oneself 40% were prompted verbally before intervention against 60% after intervention.

When comparing with girls 70% of children were able to greet others, seek permission and offer help through gestures and after intervention those skills were considerably seen with 20% of independency and there was 10% reduction in using gestures. About 70% of them were able to perform those skills with verbal prompting.

Similarly in all skills there was an increase in independence and a decrease in gesture category. It may be said that social stories had influenced the autistic children in the acquisition of social skills.

Concept Development with respect to Type of Family

There will be no significant differences in the Concept development of Autism Children before and after Intervention with respect to the Type of Family. 80% of children belonging to Joint family were able to name the colours though gestures. After intervention it was noted that 20% of individuals were able to name the colours independently. Initially only 10-20% of individuals were independent in developing concepts, but after intervention 40-50% showed independency to their performance. Cent percent of individuals can verbally prompt and arrange the letters of the colour and reading the names of the colour after intervention, which was only 20-30% before intervention. With regard to children belonging to nuclear family about 80-90% of children were able to Identify, relate and arrange the letters of the colours and read the names of the colour through gestures.

After intervention those skills were performed with 20-30% of Independency and there was 10% reduction in using gestures. Similarly in all skills there was an increase in independence and a decrease in gesture category. It may be said that social stories create a considerable impact in the concept development among the children with autism. The performance of individuals from joint family is higher when compared to individuals from nuclear family.

Social Development with respect to Type of Family

There will be no significant differences in the social development of autism children before and after intervention with respect to the type of family. 80% of individuals from joint family uses gestures to introduce themselves and in repeating the story before intervention, were as the usage of gestures was reduced to 10% after intervention. It was noted that only 10-20% of individuals were independent in social skills before intervention as against it has 20-30% after intervention. Initially none of them were independent in offering help and in introducing themselves but after intervention 60-80% of them were able to perform verbally and 10-20% of them were able to perform independently.

With regard to individuals from nuclear family it was surprising to note that cent percent of individuals were able to gesture for introducing themselves and in repeating the story and after intervention. Those skills were obtained verbally by 70% of individuals. Thirty percent of them can introduce themselves independently and 20% of individuals can repeat the story independently. Eight percent of individuals can indicate their wants and wait for his/her turn through verbal prompt after intervention. Correspondingly in all skills there was an increase in independence and a decrease in gesture category. It may be said that social stories served as a mean for social development among the children with autism. And the performance of individuals from joint family is little higher when compared to individuals from nuclear family.

Concept Development with respect to Locality

There will be no significant differences in the concept development of autism children before and after intervention with respect to the locality. 80% of children from Rural area were able to name the colour though gestures. After intervention 70% of individuals can do verbally and 30% of them can independently name the colours. Initially none of

them were independent in arranging the letters of the colours but after intervention 80% of individuals were able to perform the activity with verbal prompt.

With regard to urban individuals 80-90% of children were able to identify the shape and read the name of the colours through gestures and after intervention those skills were performed independently by 20% individuals and there was 10% reduction in using gestures. Eighty percent of urban children were able to name and read the names of the colour with verbal prompt after intervention.

Comparatively in all skills there was an increase in independence and a decrease in gesture category. It may be said that social stories revealed a significant impact in the concept development among the children with autism.

Social Development with respect to Locality

There will be no significant differences in the social development of autism children before and after intervention with respect to the locality. 80-90% of rural children were able to wait for their turn, introduce themselves and repeat the story through gestures. After intervention it was noted that 10-20% of individuals were able to wait for his turn, introduce themselves and repeat the story independently. Before intervention only 10% of the rural children were able to perform those skills with verbal prompt and after intervention it was increased to 80-90%. It was surprising to note that none of the individuals were using gesture in seeking permission, offering help, introducing self and in repeating the story through gesture.

When comparing with urban 80% of children were able to wait for their turn, introduce themselves and indicate wants through gestures and after intervention those skills were seen with 10-20% of independency of individuals. About 70-80% of individuals were able to develop social skills with verbal prompting. Correspondingly in all skills there was an increase in independence and a decrease in gesture category. It may be said

that social stories advocated a phenomenal increase in the social development among the children with autism.

Conclusion

The result reflects that there is a need for the incorporation of social stories into the curriculum. Children with autism experience difficulties with social interaction. A common strategy for dealing with this is using social stories to help individuals on the autism spectrum to understand concepts and social situations to develop their social cognition. This intend the professionals in the field of special education to focus in the key issue on developing appropriate social behaviours, which will ultimately pave the way for better social interaction.

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