The challenges and Prospects of Teaching Business Subjects to children with Autism

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Abstract

In realisation of the importance of fashioning a tailored mechanism of educating children with autism, the first autism-specific piece of legislation in England and Wales - 'Autism Bill' has now gone forward to House of Commons committee stage. The bill attracted an overwhelming support among MPs, charities and the media. It seeks to redress the widespread lack of local authority provision for the needs of people with autism particularly children. Despite legislative and policy provision for the disabled, many autism spectrum disorder (ASD) children are without appropriate education or assistance before, during and after the transition to adulthood. In view of the above, this paper examines the fundamental challenges of teaching autistic children and proffers viable techniques and prospects of achieving positive results.

Keywords: autism, disorder, support, challenges, teaching, techniques

Introduction

Autism disorder syndrome is a brain-based disorder that influences how the sufferers learn and function in academic and social environments. It is a pervasive developmental disorder marked by differences in the areas of communication, socialization, and repetitive behaviour (APA, 2000). Teaching children with autism disorder poses a daunting challenge. This work explores the various techniques of making teaching enjoyable and meaningful to children with autism. It always examines the research efforts, both in the UK and US on improving the learning environment for children suffering from such disorder. Autism is a neurodevelopment disorder affecting about 6% of children worldwide (Fombonne, 2005). Children with autism have severe and pervasive impairments in social interactions and communication which affects most areas of their daily living and often limit independent engagement in leisure activities. The isolating nature of this disorder, which results from the core deficits in social interaction and communication, poses significant challenges to the affected children, their families and teachers.

Autism is currently one of the most commonly diagnosed developmental disabilities. According to the Centres for Disease Control and Prevention (2007), the prevalence of autism is estimated to be approximately 1 in 152. Incidence of autism is higher among boys than girls, with a ratio of 3.5-4.0 to 1. The incidence is almost equal among autistic individuals with severe and profound mental retardation (Volkmar, Lord, Bailey, Schultz, & Klin, 2004). The Autism Society of America reports that there are an estimated 1.5 million Americans currently diagnosed with this disorder, which includes over 100,000 school-age children served under the Individuals with Disabilities Education Act (U.S. Government Accountability Office, 2005). Autism is characterized by impairments in three core areas: (1) social interaction, which includes nonverbal behaviours, failure to develop age-appropriate peer-relations, lack of spontaneous sharing of enjoyment or interests, and lack of social or emotional reciprocity; (2) communication, including a delay or lack of spoken language, impairment in sustaining conversation, stereotypic, repetitive or idiosyncratic language, and lack of age-appropriate fantasy or social imitative play; and (3) restricted or repetitive behaviours, activities and interests, including an inflexible adherence to routines and rituals, stereotyped and repetitive motor mannerisms, an abnormal preoccupation with objects (American Psychological Association, 2000).

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Sullivan and Caterino (2008) observe that such strange behaviours are manifested before age three, but many children show symptoms as early as eight months of age, with the earliest signs of the disorder including lack of eye contact or response to one's name, less smiling, less vocalization, less object manipulation, and less attention to social stimuli than typically developing children (Volkmar, Chawarska & Klin, 2005). Although many children diagnosed with autism have cognitive impairments ranging from mild to profound mental retardation, estimates of the percentage of autistic children with mental retardation range from only 33% to a high of 75% (Karande, 2006).

Several studies have been undertaken investigating various effective pedagogy of handling autistic children. Ryan, et al (2011) present an overview of several educational practices that can be used in the process of teaching students with autism spectrum disorders (ASD) and provide a detailed description of the evidenced-based practices including applied behaviour analysis (ABA). The picture exchange communication system (PECS), and the social stories approach are considered effective tools of teaching in an autism group. Their study also evaluates information regarding the causes of autism, examines ways in which special education programmes are impacted by the inclusion of ASD students, and details the various types of ASD including Asperger's syndrome, childhood disintegrative disorder (CDD), and Rett syndrome.

In the same vein, Myles et al (2009) outline two compatible models for planning and implementing programs for students with autism spectrum disorders (ASD). The Ziggurat Model begins the process with an assessment of individual strengths and concerns related specifically to ASD and identify interventions across five tiers that are matched to the individual's profile. These include: (a) sensory and biological, (b) reinforcement, (c) structure and visual/tactile supports, (d) task demands, and (e) skills to teach.

In the US, the National Research Council has identified goals, areas of need, and basic recommendations for educational programs serving children with autism spectrum disorders. The National Professional Development Centre on Autism Spectrum Disorders has identified evidence-based practices for early childhood and elementary programming. Highlighting the work produced by these two organizations, Stansberry-Brusnahan and Collet-Klingenberg (2010) provide professionals with guidance in setting up educational programmes that use effective, research-based interventions for young children with autism spectrum disorders in early childhood special education.

Challenges of Autistic Children in Class

Children afflicted by the disorder have difficulties in social exchanges. The wide range of behaviours that are associated with the spectrum make children with autism less available for learning, or less engaged, during academic instruction. Thus, students with autism are often excluded from academic activities, especially group instruction (Kluth & Darmody-Latham, 2003). Due to the challenging nature of the illness, rather than participating in group activities, many children with autism often receive one-to-one instruction. Such instruction requires intensive staffing, significant training for instructors and may not provide opportunities for generalizing important skills to new environments (Lerman, et al 2004). The combination of specific learning characteristics and highly individualized instruction suggest the need for continued innovations and ideas on the best strategies for actively engaging students with autism during small group instruction. Strategies that increase teacher efficiency and promote higher rates of learning are especially essential.

Autistic children are usually more challenging to manage than others. Their mental development and rate of assimilation pose immense difficulties to scholars. Thus some techniques of evaluating suffers have been developed. For instance, Thiebaut, et al (2010) developed Social Cognitive Evaluation Battery (SCEB), which is a system of psychological evaluation of children with autism. The battery consists of 16 scales that measure different cognitive, sociological and emotional functions of the child. The technique was developed based on the observed performance of 100 children with autism and a convenience sample of 35 normal children. The structure of the relations between the 16 scale scores of the SCEB, their relations with other measurements, the correspondence between the theoretical developmental ages, and the observed chronological ages and the SCEB's sensitivity to specific disorders were evaluated. The study projects the importance of devising a viable instrument to help with the psychological assessment of children with autism. Most autism interventions are aimed at teaching children with autism to speak. However, approximately 50% of all children with autism remain nonverbal (National Research Council, 2001).

Although many children with autism can learn to talk, their speech is often impaired and unclear (Charlop & Haymes, 1994). When infants with autism babble, they lack often inflection. Such deficiency remains as children with autism age while high functioning persons with autism display impaired performance even on basic tasks (Peppe et al, 2007), and are more likely to display residual articulation distortion errors, inappropriate use of phrasing, stress, and resonance (Shriberg et al., 2001) than typical developing controls.

Once an autistic child has been identified through the devised technique, it becomes incumbent on the teacher to use the relevant unique methods in teaching. Unlike normal children, autistic children usually require more attention, extensive support, different range of environment and setting. Schreibman (2005) observes that the challenge of teaching autistic children stems from that fact that most children with autism do not display interest in other people. Instead, they prefer to engage in solitary activities. In addition, children with autism display inadequacies in most behaviour required for typical social expressions including verbal commenting, intonation, gestures, and facial expressions (Carter et al., 2005). These challenges make it even more difficult to design general instructional materials for teaching. A thorough and tailor-made approach to teaching and learning are often required for effective transfer of knowledge to the autistic child.

Some teaching methods for Autistic Children

Social Cognitive Evaluation Battery (SCEB) model

The adoption of appropriate and effective teaching methods for autistic children depends on their social and emotional behaviours. Thiebaut, et al (2010) used their Social Cognitive Evaluation Battery (SCEB) model to assess the child's ability to communicate and regulate behaviour, to engage in social interactions, and to demonstrate joint attention. These pedagogical assessments are dependent on the teacher's evaluations. For instance, to assess the level of communication, the teacher gives the child an instruction— the child responds to complex orders. Engagements in social interactions entail that the teacher presents an object—the child takes it and invites the adult to play with him and to demonstrate joint attention. The teacher points at an object—the child looks at the indicated object.

The SCEB model also assesses the expressive language, in which case, the child comments on his actions, while the comprehensive language assessment involves the child understanding sentences of several words. The vocal imitation assesses the child repetitions of a sentence composed with new words and the gesture imitation helps the child imitates gestures. The SCEB model also helps autistic children develop affective relations. The child cries and shows anxiety when separated from his parents and emotional expression builds the expressions of joy and anxiety.

Using Video Self-Modelled and Social Stories to Teach Social Skills to a Young Child with Autism

Litras at el (2010) investigated the effectiveness of combining social stories and video self-modelling (VSM) to teach social skills to a three-year-old child with autism. A multiple-baseline across behaviours design revealed that video self-modelled Social Stories were effective at improving all three target behaviours: greeting, inviting to play, and contingent responding. In addition, these behaviours successfully generalized across settings, toys, and communication partners. Concomitant behaviour changes, namely, increased levels of communicative behaviour and levels of social engagement were also observed. These results support the effectiveness of video self-modelled social stories and illustrate the potential of combined intervention techniques for remedying the social deficits faced by this population.

Social stories and video modelling are two relatively novel approaches which appear to hold some promise as emerging intervention strategies. Litras et al (2000) assert that **s**ocial stories greatly aid in teaching children with autism how to manage their behaviour during social situations. The method describes how the activity is likely to take place, when and how it will occur, the emotional perspectives of others involved, and potential responses the target child could display.

Some studies have found evidence in support of the use of social stories as teaching technique for children with autism (Thiemann and Goldstein, 2001; Scattone, Tingstorm, and Wilczynski, 2006, and Sansosti and Powell-Smith, 2006). The methodology apparently increases the range of social skills including increasing social initiations and contingent social responding, increasing the number of appropriate social interactions during free play, increasing socially adaptive behaviours, and increasing levels of appropriate social engagement.

Although the social stories technique is quite novel, the method is seemly innovative and effective in teaching autistic children. The use of video technology has been adjudged suitable for autistic children. As children are drawn by video images, studies have shown that the technique is very effective in teaching children with autism (Sturmey, 2003). Video modelling involves a child watching specifically made video tapes of him or herself, peers or adults engaging in a behaviour being taught. Charlop and Milstein (1989) applied the method to evaluate the effectiveness on different behaviours such as; conversational speech, social initiations, and play-behaviours. Other studies such as Nikopoulos and Keenan (2004) applied same technique to teach autistic children play related statements. In fact, a modified method of this techniques -video-self modelling (VSM), developed by Hitchcock, Dowrick, and Prater (2003) uses a video feed forward, which allows the children to observe themselves performing .Such self modelling can be particularly useful in helping the children improve on specific skills required.

The self modelling technique have also been found helpful in promoting increased self-efficacy, self-confidence, and motivation in the child (Buggey, 2003). The effectiveness of VSM has been demonstrated in improving behaviours such as language and social initiations, appropriate verbal responses to questions, and spontaneous requesting (Wert and Neisworth, 2005). The technique incorporates degrees of explicit reinforcement, self-management procedures, prompting, explicit instructional rules and multiple exemplars. Such interventions have led to rapid and significant gains for autistic children.

Video modelling as an aid in teaching children with ASD

Video modelling involves the viewing of a video clip which provides a model for an individual to imitate. McCoy and Hermansen (2007) describe video modelling as a behavioural technique that uses videotapes rather than live scenarios for the child to observe. It enhances the focus of attention of the child and concentrates on the stimulus tape. Video modelling is the procedure of videotaping targeted behaviours in order to expand the learner's capability to memorize, imitate, and generalize or adapt targeted behaviours. The technique can be developed and used instructionally to emphasize salient social cues, specific social and communicative behaviour, and sequences for task completion (Quill, 2000). Charlop et al (2010) demonstrated the usefulness of video modelling in promoting appropriate verbal comments, intonation, gestures, and facial expressions during social interactions of three children with autism. They found that the technique of video modelling leads to rapid acquisition of socially expressive behaviours. The children also displayed generalization of these socially expressive behaviours in probes across setting, stimuli, and persons.

The application of the method arose following quest by teachers to find effective approaches to meet the instructional characteristics of children with autism. Charlop et al, (2000) affirm that video modelling is innately appealing both to children and instructors who find live modelling to be very time consuming. In fact, the technique of video modelling has been found to be effective both in quicker rates of acquisition and increases in generalization in comparison to live modelling. Ayres & Langone (2005), disclose that when the video tape has been created, the video can be confidently used repeatedly by the teacher in delivering an effective lesson. Charlop et al (2000) also applied video modelling in teaching all four components of socially expressive behaviours such as : verbal comments, intonation, gestures, and facial expressions to children with autism through the use of video modelling. The children observed videotapes of the target behaviours and are then told to practice what they saw on the videos. The technique was found every effective in teaching children with autism a variety of skills including reducing problem behaviours and increasing functional living skills, perspective taking, and social-communicative behaviours.

Although, there have been some unanswered questions regarding the technique of video modelling. For instance, Hosford & Mills (1983) question the affect of the model in the mastery of the task as it seems less effective in showing how to respond to task related anxiety. Such query on the video model has also been raised by McCoy and Hermansen (2007). They question how the model demonstrates and copes with the anxiety as it models the targeted behaviour. Charlop et al. (2000) also report that the attributes of the video may impale the reality of the lesson. This potentially can influence the effectiveness of video modelling. The video footage recorded models often demonstrate at an exaggeratedly slow pace. Very often, video modelling is used in combination with other techniques. Such combination may make it difficult to evaluate the efficiency of the method. Some have applied video modelling technique in autistic class with some computer assisted instructional packages, and with some reinforcement techniques (Kinney et al., 2003 and LeBlanc et al., 2003).

On its own, video modelling has been found quite effective, although the extent of extent to which other intervention instruments influence the learning outcome, has not been verified (Reagon et al., 2006).

Learning Through Effective Engagement of Autistic Children

All students, including students with autism, benefit from increased opportunities to respond or interact during academic activities. However, the discrepancy between how students with autism learn and the teaching strategies used in most classrooms creates a barrier to participation (Carnahan, 2006). Whether communicating information about routines, academic content, or social expectations, teachers use verbal language. For many learners with autism, this strategy is ineffective. They are often unable to process complex verbal information. Such complications make it incumbent on the teacher to devise effective strategies in teaching autistic students in the classroom. Carnahan and Musti-Rao (2009) admit that the use of evidence-based practices, and design engaging learning experiences are very effective in teaching ASD children. Their study evaluates the effects of interactive reading materials using visual cues and music on the engagement behaviour of some children with autism.

In classrooms, engagement is often defined by describing specific behaviours such as drawing attention towards the teacher, involvement in learning tasks, and initiating activities when given the opportunity (Klem & Connell, 2004). For students with autism, active engagements involve on-task and on-schedule behaviour (Pelios, MacDuff, & Axelrod, 2003). In addition to visual learning materials, music may promote increased engagement, and improve students' attitudes and abilities to process and recall information. The teacher could engage ASD children through music in outdoor play activities and other social behaviour. Kern & Aldridge (2006) used a multiple baseline design to target improved social interactions during outdoor play activities for preschool students with autism using music and found that music helped increase student parallel play but the music only condition did not increase student-to-student social interactions. However, when the music incorporated individual interests, predictable routines, and structure, the students demonstrated increased social interactions with peers.

Carnahan, Musti-Rao and Bailey (2009) highlight that effective lesson with autistic students can be achieved where there is an active engagement between the teacher and the students. Such active engagements result from strategies such as use of visual materials, on-task and on-schedule behaviour. The students learned to use visual schedules to complete a sequence of independent language arts activities in a resource room setting. This technique has been supported by Pelios, MacDuff, and Axelrod (2003) which found that students with autism maintained academic engagement with little supervision when given delayed reinforcement, faded prompts, unpredictable supervision, and response-cost.

Blum-Dimaya, et al (2010) experimented with activity scheduled training and found it very effective in teaching children with autism. Such training involves presentation of a series of written or photographic prompts for each specific task of the desired chain of activities MacDuff, Krantz, and McClannahan (1993) taught children with autism to engage independently in previously mastered leisure skills using an activity schedule. Activity schedules reduce the need of the instructor to directly prompt completion of the activity, thus decreasing the possibility that the learner may become dependent on instructor-delivered prompts. Once the desired skill has been learnt, the teacher can gradually withdraw his presence to promote independent behaviour. Activity schedules have repeatedly been shown to be effective in promoting leisure and interactive play-skill acquisition for children with autism (Machalicek et al., 2009).

Conclusion

There is no doubt that children with autism disorder can learn and participate in academic and social activities. Carnahan, Musti-Rao and Bailey (2009) demonstrated that students with autism can participate in group learning activities when teaching strategies incorporate engaging activities. Specifically, teaching tasks such as those that incorporate visual/interactive materials and music promote academic engagement. Academic engagement is imperative for learning and success for students with and without disabilities. The piece of coursework has further reviewed that there is increased engagement in a variety of activities with autistic students. Academic activities that incorporate interactive/visual components in conjunction with music promote academic engagement. Interactive books paired with music, although time-consuming to develop, are also excellent for use with students with autism.

Socially expressive behaviours enable children to share in a joined experience in both verbal and nonverbal ways. The complexity of socially expressive behaviours makes them especially difficult for children with autism. Facial expressions are also important nonverbal communicative behaviours. When used appropriately, facial expressions display affective states, and are essential to social-communicative interactions. Children with autism consistently show difficulty displaying appropriate affective behaviours. However, children with autism can learn to imitate facial expressions when the presentation of the stimuli is slow.

Although teaching children with autism can be challenging, the prospects of success are significantly guaranteed if appropriate strategies and pedagogies are utilised. The suggested techniques reviewed and suggested in this piece of work have been successfully tried and tested. Thus, relevant skills and knowledge can be transferred to autistic children despite the challenges.

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