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An investigation into the use of mental imagery by children with autism

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Abstract

With the increasing prevalence of autism on a worldwide scale, new teaching methodologies need to be explored in order to educate children with autism helping them to achieve their maximum potential. It has previously been established that many individuals with autism use visual opposed to verbal modes of thinking and learning. In this study action research was used to examine if high imagery instructional methods of teaching could be used as a teaching tool for autistic children attending a special needs school.

This study examined whether there was a change in the classroom performance of three autistic children after a 5 month period of high imagery instruction, as compared against a baseline of response to previous instruction, as well as the pattern of verbal and non verbal abilities manifested at time of intake into the programme. Analysis of the results of initial cognitive, language and perceptual tests was thus undertaken for diagnostic purposes, combined with analysis of initial response to teaching prior to high imagery intervention. Once this base-line had been established, analysis of school readiness and scholastic tests was then undertaken pre and post intervention, combined with in-depth interviews with the children's teacher, analysis of developmental diaries and analysis of work done as part of the school programme followed by each child over a five month period of intervention.

At baseline all three children were found to have phonological weaknesses, as evidenced by difficulties isolating onset sounds in words, difficulties with rhyming and difficulties in skills such as blending sounds into words. Two of the children in the sample showed little to no response to the high imagery instruction, and continued to have difficulties with reading and pre-reading tasks involving working with the sound structure of the English language. The

third child in the sample showed an increase in phonological skills and in reading, writing and spelling abilities in response to high imagery instruction, as well as an increase in both vocabulary and the non-verbal abilities involved in drawing .

It was noted at base-line as well as throughout the study that visual memory was an area of strength for this child, but not for the other two children in the sample. The child who made progress was also able to use his visual strengths to develop associations between sounds and letters. The conclusions from this exploratory study are that not all children with autism learn through use of visual strategies in teaching. The success of high imagery teaching strategies when used with a child with well developed visual memory abilities would suggest that high imagery instruction could be a useful and successful teaching strategy where children with autism exhibit well developed visual modes of thought. Strengths in visual memory and in visual association may be indicators of the likelihood that a child with autism will respond positively to high imagery instruction.

Key words: autism, phonological difficulties, mental imagery, visual memory, visual association, visual thinking, non-verbal abilities, reading, writing, spelling.