# Schematic Driven Pedagogy (SDP): The Potential Impact for Autistic Children

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**Abstract**
Discussions surrounding early years' theorist Piaget's philosophy of learning schema styles and their potential impact upon children with a diagnosis of Autism Spectrum Disorder will be highlighted within this position paper. Furthermore, this paper will also focus on the need for a Schematic Driven Pedagogy implementation to connect both additional learning needs and early years pedagogies by exploring relevant literature within this field. The conclusions drawn from the most current literature suggests that a specific schema curriculum implementation designed for individual schemas could potentially provide many benefits for autistic children. Potential benefits explored within this paper include improvement within some social skills through the exploration of play-based situations adapted to individual schemas.

**Keywords**
Piaget, Autism, schemas, Foundation Phase.

## Introduction

Within this position paper, literature examines how a schematic implementation could support some areas of development for autistic children. Critically, there appears to be a correlation in relation to similarities connecting restrictive, repetitive behaviours (RRBs) and schemas. They are both repetitive in nature, individualistic and unique to a child. We are therefore hypothesising that RRBs could be a form of schematic expression. If this is the case, then potentially practitioners could be misinterpreting some repetitive expressions that are acting as a schematic Zone of Proximal development which could be supporting the individual child to assimilate and accommodate new information (Piaget, 1953; Piaget, 1959). The theory behind a schematic implementation for autistic children is to promote inclusion of children with ALN such as ASD within early years theorem that have previously highlighted neurotypical development. This paper advocates that autistic children should be able to express individualistic behaviour within a 'neurotypical' society underpinned by a deeper understanding of behaviour characteristics (such as schematic expressions).

Typically, according to Piagetian theory (1953; 1959), a child demonstrates dominant schema patterns within the early years of their lives and so it can be hypothesised that as a child moves through the stages of formal education, dominant schemata patterns are often not at the forefront of educators' planning. Research conducted by Thomas (2021) determined that through nurturing a child's schema within the classroom, it allows practitioners to gain insight into a child's learning processes. One could therefore hypothesise that a gap in schema knowledge could implicate a practitioner's ability to differentiate and scaffold in relation to dominant schemata. This highlights a gap relating to not only knowledge of practitioners regarding schemas but also in relation to how schemas can be utilised to support cognitive acquisition within the classroom. In relation to autistic children, there appears to be very little literature connecting schemas and the ALN sector (specifically relating to Autism Spectrum Disorders). Thus, the creation of a schematic implementation would seek to enhance an autistic child's learning experience, upskill practitioners within the ALN field and ignite professional discussion following implementation.

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**Schematic Pedagogy in Relation to Restrictive, Repetitive Behaviours**

It is documented that some autistic children can engage in repetitive behaviours, known as 'restrictive, repetitive behaviours' (RRBs). However, whilst RRBs can be observed in some autistic children, it is important to note that not all autistic individuals exhibit RRBs, and RRBs can also be observed in typical development within infancy (Collis et al., 2022). In relation to RRBs, expressions could include repetitive sensory motor behaviours or insistence in relation to 'sameness' behaviour (Jiujias, Kelley and Hall, 2017). There are many reasons why these behaviours are exhibited, including seeking of sensory input, reducing sensory input, coping with anxiety or purely because the behaviour itself is enjoyable. The discussion of RRBs in this paper is significant because of the similarity they present to schematic behaviour. Comparatively, they are both presented in early childhood, have a repetitive pattern and are unique to the individual child expressing them.

Constable (2013) begins to explore this connection and discusses that because both of the behaviour pedagogies are similar in their expression, it can be challenging to distinguish one from the other. However, Constable (2013) discusses that it should not matter if the repetitive behaviour is schematic or not as long as the individual child is supported to develop new learning experiences. It could be hypothesised that if an RRB is perceived as being negative or disruptive, rather than a natural schematic expression and is limited, then this could potentially have a negative impact upon their well-being. For example, if a child has a 'transporting' schema (meaning they need movement opportunities to process information) (Piaget, 1953; Piaget, 1959) and their movement opportunities were limited due to the perception of being disruptive, then this could potentially have an impact upon their learning experiences.

This connection highlighted by Constable (2013), does provoke thought around the original Piagetian (1953; 1959) schema categories. The term autism was said to be first described in 1943 by Kanner, this equates to approximately a decade before Piaget published his schema theory. It could be hypothesised that at the time of schema publication, that there was not a substantial amount of information relating to ASD available, and therefore it is probable that the schema categories (Piaget, 1953; Piaget, 1959), were modelled upon neurotypical schematic behaviour patterns. An exploratory schematic implementation for autistic children would therefore seek to explore the potential for any 'missing' categories that could overlap with RRBs. An expanded range of schematic expressions could promote inclusivity for children with ALN.

**Schematic Pedagogy and Theory of Mind**

'Theory of Mind' (ToM) is defined as the ability to attribute mental states to one's self, to others and to utilise such attributions to not only predict behaviour but to also understand it (Warrier and Baron-Cohen, 2018).

An article written by Mitchell, Sheppard and Cassidy (2021) outlines that living within a predominantly neurotypical society could negatively affect the development of several abilities of autistic individuals. The authors continue to discuss that because of this, autistic people may begin to hide their style of interaction, but they may also begin to 'mask' their behaviour and begin to emulate their neurotypical peers' social interaction. This could then potentially lead to poor mental health and well-being (Cassidy et al*.,* 2019). Chapple et al*.* (2021) discuss the double empathy problem theory (Milton, 2012) and how historically, ASD has been viewed as 'deficits' based highlighting difficulties associated with social communication. It could therefore be hypothesised that our society needs to begin adapting the way we process ASD to ensure environments and interactions are more inclusive to support a diverse range of needs. A schematic implementation would seek to promote the understanding and inclusivity of diverse behaviour expressions which could relate to schema patterns within the modern-day classroom.

Furthermore, there is potential for a schematic implementation to support the central coherence of autistic children which can often be categorised as 'weak'. The definition of a 'weak central coherence' is loosely outlined as a tendency to focus on 'local' information (Riches *et al.,* 2015), this can then lead to focusing on small details and difficulty in processing wider information around the current topic context (Ellis Weismer *et al.,* 2016). A weak central coherence system has also been linked to difficulties in interpreting social information (Calero *et al.,* 2015). Tassini et al. (2022) discuss that a weak central coherence could explain some challenges that some autistic people experience in relation to social contexts. To support social skill exploration, the SDP provides activities which could act as a role play facilitator in relation to 'real-life' situations such as a tea party. Autistic children who access such activities would then be able to experience the scenario and explore different social interactions such as sharing items with either an adult or a peer.

**Social Skills and Schematic Pedagogy**

To further strengthen the connection between ASD and schema pedagogy, research conducted by Schaller et al. (2019) provided a study which aimed to observe the difference between autistic adolescents and neurotypical adolescents in relation to some social behaviour (moral reasoning). The authors discuss that children develop some social behaviours within frequently experienced social situations. The authors continue to discuss that some autistic individuals have social cognition interpretation difficulties in relation to social behaviours such as face recognition, classifying emotions and ToM, and could therefore exhibit difficulties in relation to moral reasoning (Schaller et al., 2019) The study consisted of the participants accessing the 'Intuitive Moral Reasoning Test' which included moral dilemma questions and classical false belief stories. The authors concluded by discussing that in relation to moral reasoning, the ASD control group were able to arrive at similar decisions as long as the dilemma was based on an 'everyday life' situation. As mentioned previously, the SDP aims to include some real-life scenarios for autistic children to explore, which could provide opportunities to explore a variety of social skills (such as emotion categorisation).

**Conclusion: Our Position**

The term 'SDP' is not widely circulated at this time of writing. The creation of the SDP was derived through first-hand experience of an Additional Learning Needs (ALN) (Kelly) teacher regarding some early years theories not remaining at the forefront of ALN teachers' planning priorities (such as play based schemas). The SDP was therefore formulated to create an adaptable intervention that would utilise early years theorist Piaget's (1953;1959) schema theory to differentiate activities according to a child's preferred mode of exploration. The SDP acts as an advocate for early years theories within the typical modern, ASD classroom or provision with the hope to encourage individualistic exploration expression.

Conclusively, this paper has sought to outline how a differentiated schematic implementation could support many areas of development for autistic individuals. Such areas include social skill exploration through experiencing a play-based 'real-life' social situation. It is important to note that a schematic implementation seeks to upskill practitioners in relation to how materials or activities could be differentiated to suit an individual's preferred exploration style; thus, promoting understanding of a range of behavioural learning styles within a 'neurotypical' society.

**References**

Calero, M.D., Mata, S., Bonete, S., Molinero, C. and Mar Gomez-Perez, M. (2015) 'Relations Between Learning Potential, Cognitive and Interpersonal Skills in Asperger Children', *Learning and Individual Differences,* 44, pp. 53-60.

Cassidy, S.A., Gould, K., Townsend, E., Pelton, M., Robertson, A.E. and Rodgers, J. (2019) 'Is Camouflaging Autistic Traits Associated with Suicidal Thoughts and Behaviours? Expanding the Interpersonal Psychological Theory of Suicide in an Undergraduate Student Sample', *Journal of Autism and Developmental Disorders,* 50, pp. 3638-3648.

Chapple, M., Davis, P., Billington, J., Myrick, J.A., Ruddock, C. and Corcoran, R. (2021) 'Overcoming the Double Empathy Problem within Pairs of Autistic and Non-autistic Adults Through the Contemplation of Serious Literature', *Frontiers in Psychology,* 12.

Collis, E., Gavin, J., Russell, A and Brosnan, M. (2022) 'Autistic Adults' Experience of Restricted, Repetitive Behaviours', *Research in Autism Spectrum Disorders,* 90, pp. 101895.

Constable, K. (2013) *Planning for Schemas Play in the Early Years.* Oxon: Routledge. Available at: https://ebookcentral.proquest.com/lib/cardiffmet/reader.action?docID=1207508 (Accessed: September 2021).

Ellis Weismer, S., Haebig, E., Edwards, J., Saffran, J. and Venker, C.E. (2016) 'Lexical Processing in Toddlers with ASD: Does Weak Central Coherence Play a Role?', *Journal of Autism and Developmental Disorders,* 46(12), pp. 3755-3769.

Jujias, M., Kelley, E. and Hall, L. (2017) 'Restricted, Repetitive Behaviours in Autism Spectrum Disorder and Obsessive-Compulsive Disorder: A Comparative Review', *Child Psychiatry and Human Development,* 48(6), pp. 944-959.

Milton, D.E. (2012) 'On the Ontological Status of Autism: The Double Empathy Problem', *Disability and Society,* 27, pp. 883-887.

Mitchell, P., Sheppard, E. and Cassidy, S. (2021) 'Autism and the Double Empathy Problem: Implications for Development and Mental Health', *British Journal of Developmental Psychology,* 39(1), pp. 1-18.

Piaget (1953) *The Origins of Intelligence in the Child (2nd Edition).* London: Routledge and Kegan and Paul.

Piaget, J. (1959) *The Language and Thought of the Child.* London: Routledge.

Riches, N.G., Loucas, T., Baird, G., Charman, T. and Simonoff, E. (2015) 'Elephants in Pyjamas: Testing the Weak Central Coherence Account of Autism Spectrum Disorder Using a Syntactic Disambiguation Task', *Journal of Autism and Developmental Disorders,* 46(1), pp. 155-163.

Schaller, U.M., Biscalid, M., Fangmeier, T., Tebartz Van Elst, L. and Rauh, R. (2019) 'Intuitive Moral Reasoning in High- Functioning Autism Spectrum Disorder: A Matter of Social Schemas?', *Journal of Autism and Developmental Disorders,* 49(5), pp. 1807-1824. Available at: https://link-springer-com.ezproxy.cardiffmet.ac.uk/content/pdf/10.1007/s10803-018-03869-y.pdf (Accessed: September 2021).

Tassini, S.C.V., Melon, M.C., Bueno, O.F.A. and de Mello, C.B. (2022) 'Weak Central Coherence in Adults with ASD: Evidence from Eye-Tracking and Thematic Content Analysis of Social Scenes', *Applied Neuropsychology,* pp. 1-12.

Thomas, A. (2021) 'Exploring Schemas in the Welsh Curriculum: A Coming to Know for Practitioners and Children', *Journal of Early Childhood Research,* 19(1), pp. 98-112.

Warrier, Varun and Baron-Cohen, S. (2018) 'Genetic Contribution to 'Theory of Mind' in Adolescence', *Scientific Reports,* 8(1), pp. 3465-3469. Available at: https://www.nature.com/articles/s41598-018-21737-8.pdf (Accessed: September 2021).