An Intervention that Uses Circumscribed Interests to Promote Pretend Play and Social Interaction in a Preschool Pupil with Autistic Spectrum Disorder

Circumscribed interests (CIs) are a core diagnostic characteristic of autistic spectrum disorder (ASD) and play a significant role in the daily life of those with ASD and their families. This article considers the nature of CIs, identifies the challenges they pose in the preschool classroom and outlines an intervention which may be used by the teacher to support teaching and learning. Drawing on a number of key studies, the intervention described uses child-initiated interest as a starting point to promote and develop pretend play and social interaction. It is designed for a child with ASD in a preschool setting within a mainstream school.

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INTRODUCTION

The repetitive and non-social nature of circumscribed interests (CIs) can impact negatively on family life, learning and social interaction. As these interests can present early in the life of the child with autistic spectrum disorder (ASD), negative responses from family and educators can be detrimental to developmental outcomes. The intervention outlined in this paper is designed for a child with ASD in a preschool setting. The goal of the intervention is to use an interest as a motivational antecedent to learning, social interaction and play. To achieve this goal, educators work collaboratively with parents to provide rich and varied experiences that will lay foundations for future effective learning and communication.

CIRCUMSCRIBED INTERESTS

A CI is an intensely focused special interest that is characteristic of autism and is often interchangeably used with restricted interest (Porter, 2012). The Autism

Diagnostic Observation Schedule (Lord, Rutter, Goode, Heemsbergen, Jordan, Mawhood and Schopler, 1989) defines a restricted interest as one that differs from ordinary hobbies with regard to its intensity, its focus, its non-social nature and its lack of development over time.

At first, one might confuse CIs with obsessive compulsive disorder (OCD). However, Klin, Danovitch, Merz and Volkmar (2007) describe OCD obsessions as irrational and a cause of discomfort, while CIs can be termed "beloved activities associated with great positive valence…a passionate pursuit of knowledge or routines that are unusual in form and content" (p. 97). Research shows that CIs are evident in the majority of children with autism (Klin et al. 2007; Turner-Brown, Lam, Holtzclaw, Dichter and Bodfish, 2011). In addition, Bartak and Rutter (cited in Sasson, Turner-Brown, Holtzclaw, Lam and Bodfish (2008)) found that CIs are found in both low and high functioning autism. Turner-Brown et al. (2011) indicate that although there is little difference between the number of interests in typically developing children and children with autism, the nature and content is significantly different. Children with ASDs are more likely to have mechanical and non-social interests, such as how machines work or schedules and numbers, while typically developing children relate to the more social aspects of the world such as social relationships, imagination and beliefs. Klin et al. concur with this research adding that even if the interest is associated with people there is little evidence to show that it relates to people's thoughts, feelings or experiences. They also note that CIs are generally expressed through verbal learning and memorisation.

Challenges of CIs
CIs can be viewed as an impairment and as a cause for anxiety. Klin et al. (2007) state that the "all-absorbing nature of these pursuits can disrupt learning in areas important for real-life adaptation and can significantly interfere with reciprocal social interaction" (p. 90). In addition, Attwood (cited in Spiker, Enjey, Van Dyke and Wood, 2012) suggests that when children with ASD are involved in restricted interests they often miss important information from their environment. A study conducted by Turner-Brown et al. (2011) reflects this viewpoint, adding that parents of children with ASD stated that such circumscribed, rigid and repetitive behaviour can be a difficult aspect of everyday life. Challenges with regard to frequency, interference, flexibility, the accommodations required by CIs and the social aspect of them were reported. The report states that CIs can limit social experiences and interfere with the learning and development of adaptive behaviour.

Meaningful interaction and reciprocal communication are often impeded as children with CIs are known to engage in one-sided conversations with others, often around unusual topics. They also tend to seek out others with similar interests so that they can add to their knowledge. Because their knowledge of their special topics would generally be beyond that of their peers, children with CIs may show little interest in children their own age (Heflin and Alaimo, 2007, p. 12). A study carried out by Mercier, Mottron and Belleville (2000) describes how participants with autism were conscious of how their interests impact on family. Although they themselves did not see many negative aspects, they were aware that their families could become frustrated, exasperated and burdened by the exclusivity of their interest.

Behavioural rigidity and inflexibility are strongly associated with CIs. In the study by Turner-Brown et al. (2011) parents reported that, as a result, children are likely to display a variety of challenging behaviours if not permitted to engage in their special interests. Such behaviours include meltdowns, severe irritability, aggression and self-harm. Turner-Brown et al. show that in some cases such rigidity "may become a potential driver for mood and behaviour problems" (p. 451) and can consequently interfere with learning and socialisation. It is likely therefore that engaging in CIs may cause anxiety in children with ASD and their families.

As a further complication, Spiker et al. (2012) suggest that children with ASD may use CIs as a coping strategy to address anxiety. Communication and cognitive impairments, sensory overload, difficulty with change, academic and social challenges can lead to raised anxiety levels in children with ASD. In their findings from the study, Spiker et al. state that, in the absence of coping strategies, children may engage in intensive CIs to distract attention from the anxiety. The study concludes that intensive CIs impede social development, communication, and learning. Therefore, although this strategy may provide relief and distraction in the short term, it can potentially add to the difficulties experienced by these children.

Positive Aspects of CIs
While a range of studies show that CIs can present a variety of difficulties to the child with ASD, there is also evidence to suggest that in contrast, they can be a source of validation and personal growth. In a study conducted by Mercier et al. (2000), participants identified CIs as a source of pleasure. They associated a sense of well-being, security, happiness, restfulness, enrichment, identity and pride with the pursuit of their interests. Parents in the study described CIs as a means to develop knowledge and personal growth. Klin et al. (2007) concur with this and identify CIs as an adaptive measure used to dispel fears and to form an

understanding of a confusing social world. In addition, they state that highly circumscribed knowledge and intense engagement in areas such as information technology and academics has resulted in success in life for people with ASD. Such evidence would suggest that pursuit of CIs can be channelled to promote independent living and help achieve meaningful employment and relationships. For example, Temple Grandin's passionate pursuit led to valuable advancement in the world of animal husbandry. This would suggest that CIs can be used as a motivator to encourage socialisation.

Although the Autism Diagnostic Observation Schedule (Lord et al., 1989) states that a CI differs from other interests in its relative non-development over time, there is evidence to suggest that with sustained social involvement, CIs can develop and evolve. Research from Mercier et al. (2000) reveals that while CIs play a positive role in a person's life, they can also contribute to negative outcomes. The research involved eighteen in-depth semi-structured interviews with six high-functioning individuals with pervasive developmental disorders and their parents and/or siblings. It reports that the individual can develop strategies to deal with the negative social implications of CIs and identifies three ways in which this can be achieved:

1. The person maintains the interest but conceals or adapts it to suit the social environment.
2. Through social integration the person learns to suppress or reduce intensity in the interest.
3. The person diversifies the interest.

By reducing the time and intensity given to a specific interest, the person is able to expand and broaden the interest. Statements from the participants in this study suggest that "within their area of interest, they show no resistance to novelty and even manifest adaptive capacities" (Mercier et al., 2000, p. 420). It is also significant that the participants identified their ability to control their CIs as positive and a sign of maturity.

INTERVENTIONS USING CIs

CIs can be used as motivators for target behaviour. The *Power Card Strategy* is an effective strategy that links a story of a social situation with a child's special interest in order to elicit appropriate behaviour (Spencer, Simpson, Day and Buster, 2008). Porter (2012) mentions another strategy that uses the child's special interest as a motivator or reward to encourage certain behaviours. Similarly, Boyd,

McDonough and Bodfish (2012) write about a consequence and antecedent-based approach where the CI is used as the reinforcement or stimulus that is used to either elicit a target behaviour or reward the non-occurrence of an inappropriate behaviour.

In an intervention carried out by Lanou, Hough, and Powell (2012), a child was enabled to self-monitor his own emotions by capitalising on his strong maths interest. This child fluctuated between emotional extremes, and severe meltdowns could affect his entire day. Using a graph, he tracked his own feelings each day. This empowered him to pay more attention to his feelings and to identify when he needed to use a calming strategy. While the frequency of the frustration remained the same the intensity decreased and recovery time improved. Another child in this study had a poor sense of personal space. This had an adverse effect on his social interaction in school as he was constantly too close to people. This intervention used the *Power Card Strategy* incorporating his special interest, *The Titanic*. The iceberg was used to explain personal space and the story expanded to explain how others feel when personal space is infringed. Along with auditory and visual cues the child was enabled to dramatically decrease his infringement of other people's personal space. These interventions empowered the children to self-monitor and self-evaluate their behaviours by addressing what is meaningful to them and by teaching to their strengths and interests.

Using CIs to Promote Pretend Play in the Preschool Child
Parents can often perceive their child's CI as an obstacle to social interaction. However, many are acutely aware of their child's strengths in some areas in contrast to the many deficits in others. For some, they are reluctant to tread on these "islands of ability" (Turner-Brown et al., 2011, p. 451). One parent described changes in the intensity of an interest as "a bit of a loss" stating that the more his child comes out of his inner world the more it takes away from his "special talents" (Mercier et al., 2000, p. 419). As teachers, while we need to identify the specific areas of need of our pupils with ASD, we must equally identify their strengths and their passions. These interests must be respected and used carefully as a means to help children develop socially and academically.

Porter (2012) describes and evaluates a successful intervention which was undertaken by the parent of a preschool child with autism. This four-step intervention promoted pretend play using the child's CI. According to the American Psychiatric Association (cited in Porter, 2012) impairment in pretend play is part of the diagnostic criteria for autistic disorder. Thomas and Smith (2004, p. 53) state that "without focused support the play of children with an ASD

is likely to develop slowly and atypically with consequent ramification for their inclusion in the play activities of their peers". Lang, O'Reilly, Rispoli, Shogren, Machalicek and Sigafoos (cited in Porter, 2012) argue that although the modelling strategy is the most common intervention used to promote pretend play in children with autism, it has its limitations. Porter (2012) concurs with this adding that rather than using modelling as the sole means of targeting play an effective method may be to base an intervention on the child's CIs. Porter's (2012) evaluation of this intervention stated that by introducing the child to a broad range of pretend play based on his CI, he was enabled to develop different themes of interest. However, she acknowledged that although a child's topic of interest may change over time, the tendency towards restricted interests may still remain. The research evidence supports interventions by parents and teachers which harness the possibilities of CIs for supporting learning in children with ASDs. "Success will largely depend upon the teaching and parenting strategies that systematically incorporate these interests into meaningful activities and specific goals" (Porter, 2012, p. 166).

Description of the Intervention
This intervention programme is designed for a preschool child with a special interest in boats and adapts the play intervention as outlined by Porter (2012). The proposed timeframe would be approximately four months. The broad objective is to help the child adapt his CI to the demands of his environment, to diversify it and subsequently decrease the amount of time devoted to it. Specific objectives over this time would be that the child will interact spontaneously with others, respond to initiation, engage meaningfully in pretend play, build specific vocabulary and begin to develop empathy for the feelings of others.

Positive parental involvement is necessary to build a quality relationship around the child's interests thereby safeguarding child and family well-being. Although it is not possible to consider in-depth parental involvement in this article, it is proposed that parents will be significantly involved in the intervention. The strategies will be discussed and parents will be encouraged to adopt similar strategies at home. Parents can also become actively involved in preparing the child for field trips as outlined below and be encouraged to accompany the preschool when possible on such trips. The positive strategies (outlined below) used in this intervention may help the parents over the coming years to capitalise on the child's specific interests using them as motivators to meet academic and social challenges.

Strategies

1. ***Create a web based on the child's CI***

> Develop a concept and sub-concept map which identifies the wide range of activities that can be explored through this topic (Appendix A).

2. ***Model pretend play by use of divergent materials***

- Provide a range of divergent materials that can be used to create boat themed pretend play. Isenberg and Jalongo (cited in Porter, 2012) describe divergent materials as open–ended and can be used in a variety of ways (e.g. play dough, blocks, sand and water, cardboard boxes).
- Model pretend play beginning with some simple ideas. Continue to model until the child interacts spontaneously.
- Gradually add further opportunities for pretend play (e.g. water play).
- Begin to introduce sub-themes in order to expand his interest and experience, fading out the focus on boats alone. Sub-themes may include building a harbour, building bridges, sand and water play. A useful sub-theme could involve setting up a kitchen in his boat area. This would encourage interaction with others, build vocabulary and provide opportunity for considering feelings and needs of others.

3. ***Model verbal interactions in pretend play***

- Initiate conversations in pretend play by using short and simple scripts related to the boat theme that are easily imitated (e.g. 'All aboard', 'Let's go fishing').
- Introduce words that require a response, thereby facilitating interaction with other children, e.g. ('Ticket, please', 'Put on your lifejacket', 'Raise the sails').
- Use a wide variety of visual cues such as books, DVDs, figurines and ICT games to help him understand the play context. Stories, rhymes and favourite cartoon characters can be used to encourage repetition of frequently used phrases.

4. ***Provide theme boxes and field trips to promote pretend play***

- **Theme Boxes**: Using the boat web gradually build up a selection of props. These will stimulate pretend scenarios and encourage social interaction. Such props may include fishing nets, dress up outfits, treasure and maps.
- **Field Trips**: Well-planned excursions add a meaningful context and help expand the knowledge and experience of special interests. Use

websites and social stories to help the child become familiar with the
area to be visited and make the event more predictable. On his return
provide opportunities to revisit the experience through pretend play.
Display photographs and use scrap books and story books to
encourage the use of specific vocabulary and to expand the theme.

CONCLUSION

It is clear from the literature that effective intervention can capitalise on the child's
CI to help him form an understanding of the social world. This intervention looks
at strengths rather than deficits. It uses specific strategies individually designed to
the child's needs and creates natural opportunities for social interaction and fun-
filled learning.

"When we concentrate on the grim task of solving the problems of autistic
individuals, it is easy to overlook the importance of pleasure. Yet without joy in
living, all else is pointless" (Dewey, 1991, p. 206).

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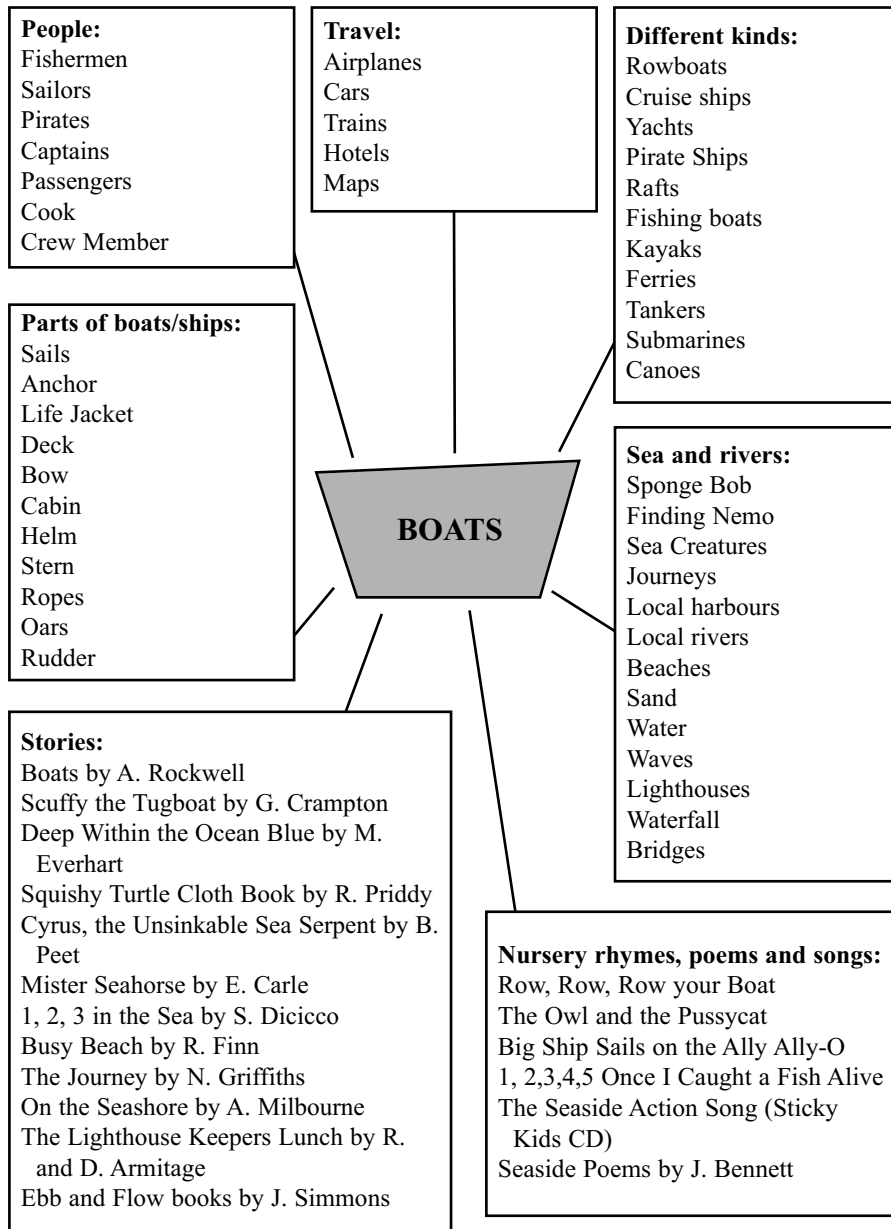   *Intervention in School and Clinic*, Vol. 47 (3), pp. 175-182.

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APPENDIX A: POSSIBLE WEB FOR INTERVENTION

People:
Fishermen
Sailors
Pirates
Captains
Passengers
Cook
Crew Member

Travel:
Airplanes
Cars
Trains
Hotels
Maps

Different kinds:
Rowboats
Cruise ships
Yachts
Pirate Ships
Rafts
Fishing boats
Kayaks
Ferries
Tankers
Submarines
Canoes

Parts of boats/ships:
Sails
Anchor
Life Jacket
Deck
Bow
Cabin
Helm
Stern
Ropes
Oars
Rudder

BOATS

Sea and rivers:
Sponge Bob
Finding Nemo
Sea Creatures
Journeys
Local harbours
Local rivers
Beaches
Sand
Water
Waves
Lighthouses
Waterfall
Bridges

Stories:
Boats by A. Rockwell
Scuffy the Tugboat by G. Crampton
Deep Within the Ocean Blue by M.
  Everhart
Squishy Turtle Cloth Book by R. Priddy
Cyrus, the Unsinkable Sea Serpent by B.
  Peet
Mister Seahorse by E. Carle
1, 2, 3 in the Sea by S. Dicicco
Busy Beach by R. Finn
The Journey by N. Griffiths
On the Seashore by A. Milbourne
The Lighthouse Keepers Lunch by R.
  and D. Armitage
Ebb and Flow books by J. Simmons

Nursery rhymes, poems and songs:
Row, Row, Row your Boat
The Owl and the Pussycat
Big Ship Sails on the Ally Ally-O
1, 2,3,4,5 Once I Caught a Fish Alive
The Seaside Action Song (Sticky
  Kids CD)
Seaside Poems by J. Bennett