REACH

JOURNAL OF INCLUSIVE EDUCATION IN IRELAND

ISSN 0790 8695

working together effectively

- Teachers' Perceptions of how the Classroom Environment Can Support Pupils with ASD
- Identification of Autism in Girls: Role of Trait Subtleties, Social Acceptance andMasking
- Creating Communicative Opportunities for Autistic Children
- Using the Creative Arts to Engage Young Children with Autism

Journal of the Irish Association of Teachers in Special Education

Vol. 34 NO. 1 Autumn 2021

REACH: Journal of Inclusive Education in Ireland **is published open access online at reachjournal.ie by the Irish Association of Teachers in Special Education, Drumcondra Education Centre, Drumcondra, Dublin 9.**

REACH: Journal of Inclusive Education in Ireland publishes peer-reviewed ARTICLES (3,000 words, excluding abstract and references) which report empirical research as well as articles that review and critique relevant aspects of education policy or practice and make an original contribution to debate. All manuscripts submitted must fall within the focus and scope of the journal, be original and of significance, of interest and relevance to our readership, rigorous and informed by relevant literature. *REACH: Journal of Inclusive Education in Ireland* also publishes REVIEWS of books and software related to special and inclusive education. The Editorial team will on occasion invite authors to contribute or comment on or respond to positions presented publicly in an INVITED COMMENTARY feature. Submissions are accepted on a rolling basis throughout the year and manuscripts should be submitted online at reachjournal.ie Manuscripts submitted for publication are subject to double-blind peer review.

The Harvard style of referencing is used in *REACH: Journal of Inclusive Education in Ireland*. Authors referred to in the text are written as follows: (Mathews, 2018; Ní Bhroin, 2017) or "…according to Mathews (2018)…" or "… as concluded by Ní Bhroin (2017)…" If quoting a text directly a page number should be included e.g. (Mathews, 2018, p. 23). Full references are listed alphabetically at the end of the manuscript e.g.

Mathews, E. (2018) *Language, Power, Resistance: Mainstreaming of Deaf Education*. Washington DC: Gallaudet University Pres**s.**

Colum, M., & McIntyre, K. (2019) Exploring Social Inclusion as a Factor for the Academic Achievement of Students Presenting with Special Educational Needs (SEN) in Schools: A Literature Review. *REACH: Journal of Special Needs Education in Ireland*, *32*(1), 21–32. https://reachjournal.ie/index.php/reach/article/view/14/14

If an online version has been used, cite the online version and include a DOI or URL and include the date accessed. Submission guidelines, referencing examples, and a journal style template are available HERE and at reachjournal.ie

Journal articles can be accessed online at reachjournal.ie and via EBSCO's Education Research Complete Database

Typeset by Artwerk Limited, Springfield, Dublin 24. Tel: 087 2219411, email: artwerkdh@gmail.com

REACH

VOL. 34. NO. 1
Autumn 2021

ISSN 0790-8695

JOURNAL OF INCLUSIVE EDUCATION IN IRELAND

Contents

Editorial

The publication of this issue of REACH marks two very significant developments in the history of the Journal namely a change in title and the move to open access online publication at the website https://reachjournal.ie

REACH Journal has been published biannually since 1987 and in this period has changed its title three times. Initially *REACH: Journal of the National Association of Teachers in Special Educatio*n, in 1989 it changed to *REACH: Journal of the Irish Association of Teachers in Special Education* reflecting the change in the name of its founding organisation to the Irish Association of Teachers in Special Education (IATSE). In 1992 the title changed to *REACH: Journal of Special Needs Education in Ireland* and from Volume 34 (2021) REACH is the *Journal of Inclusive Education in Ireland.* This recent change is the result of lively debate over several years at the Editorial Board alongside discussions with the Central Executive Committee of IATSE.

In all these deliberations the members of the Editorial Board were very keen to retain the title and concept of 'REACH' maintaining the historical link with the aims of the Journal as initially described by the Founding Editor, the late Sean Griffin

> *Special Education has always involved a special reaching out. Primarily it has been a response to the reaching out of children with special needs who despite their disabilities or impairments stretch forward to seek their fullest potential. As teachers we draw from their optimism, trust and resilience in our reaching out to assist them...The journal REACH borrows from that challenge in its aim to help teachers in special education draw professional strength from reaching out to each oth*er (1987, p. 4).

Notably the change in title also reflects the aspiration articulated in that very first editorial that "*As our awareness of special educational needs becomes broader, stretching beyond the confines of segregated or semi-segregated provision to the ordinary classroom, it is essential that special education must be seen as the responsibility of all teachers* (Griffin, 1987, p. 4). Almost thirty five years after these words were written, rather than thinking in terms of a dichotomy between 'special needs education' and'

inclusive education' REACH recognises the need for education to be inclusive of all while also acknowledging difference. Thus the mission of REACH is above all about enhancing the educational experience of children and young people with special or additional needs for whatever reason, wherever they are educated, and by whom.

Moving to online open-access publication should broaden and increase the readership base, improve awareness, recognition and circulation of the REACH journal and increase accessibility through full online presence all key to enabling the achievement of the Journal's aim. At the time of writing all the journal content from Volume 14 to date is available at reachjournal.ie and plans are underway to make the remaining content available in the coming months. Thank you to IATSE for supporting and funding this project and to my fellow editorial board members for making this happen.

This issue of REACH features four articles focused on supporting the inclusion in education of learners with autism. In the first of these Davy and Tynan consider teachers' perspectives in relation to how aspects of the physical and temporal classroom environment can support pupils with autism. The articles by O'Síoráin et al. and Twomey et al. both focus on supporting classroom communication with young children with autism. O'Síoráin et al. draw on case study data to invite education professionals to reflect on how they connect and communicate with young children with autism in the classroom. Twomey at al. consider the challenges experienced by young children with autism as they transition to early education settings and the role of the creative arts in supporting inclusion. It is notable that the balance of agency in the learning environment and the recognition that all children have a voice are key themes in both articles. Finally Corscadden and Casserly consider the identification of autism in girls, and the impact of gender differences on social acceptance of autism traits and the masking of social difficulties.

As we begin to emerge from the Covid-19 pandemic there is a renewed awareness of the critical importance of education for all children. However, education professionals are also acutely aware that prolonged school closures and the restrictions on learning environments have had particularly negative impacts on many vulnerable children and young people with complex learning needs. With greatly increased accessibility *REACH: Journal of Inclusive Education in Ireland* will be even better

placed to support all who work with learners whose education has been most disrupted and negatively impacted by Covid-19. Working together we can continue to achieve the aims of those forward-thinking individuals who established first IATSE and then REACH and

> *provide a forum for new ideas and a stimulus for change, an exchange mart for effective practices, an opportunity to influence others, an ear for those who need one, renewal for weary spirits, reassurance for those who are uncertain of their worth, perspective for those who live too near the wood, a touchstone for those who may have forgotten that they need one, inspiration for those who do not find it nearer home, optimism for those in danger of losing it, a jolt for those who may not have noticed prejudice slipping into the place of truth, satisfaction for those who help to make good things happen, affirmation that membership of the human family endows each person with unique and equal value and confirmation that there is no member of that family whose life cannot be changed by good teaching* (McGee, 1994, p.6).

For many years REACH Journal has provided an opportunity for those involved and interested in inclusive and special education to publish articles based on their research, practice and experience. We particularly welcome submissions from education practitioners and contributions reflecting the views and experiences of learners with a diverse range of abilities along a continuum of need. See https://reachjournal.ie for submission guidelines and template, contact the editor reach.editor.iatse@gmail.com) to discuss possible submissions and follow the Journal on Twiter @ReachJournal.

ANNA LOGAN

Editor

References

Griffin, S. (1987) Editorial, *REACH:Journal of the National Association of Teachers in Special Education,1,* 1*,* 4.

McGee, P. (1994*) Foreword.* Irish Association of Teachers in Special Education, Celebrating 25 years. Publication marking the Silver Jubilee of IATSE.

The Editorial Board and the Central Executive Committee of IATSE extend sincere sympathies to the family, friends and colleagues of the late Jean Loy (RIP) who recently passed away following a short illness. Jean was for many years a teacher at St. Joseph's Special School Tallaght, a member of the IATSE CEC and REACH Journal Administrator.

Ar dheis Dé go raibh a hanam.

REACH: Journal of Inclusive Education in Ireland, Vol. 34.1 (2021), 6-17.

An Exploration of Teachers' Perceptions of how the Classroom Environment Can Support Pupils with Autism Spectrum Disorder (ASD) in the Mainstream Primary School

This study sought to explore teachers' perceptions of how the classroom environment can be used to support learners with Autistic Spectrum Disorder (ASD). While knowledge about educational interventions for children with ASD is substantial, less is known about the design of supportive classroom environments (Martin, 2016, p.280). A qualitative approach was used, involving interviews with five primary-school teachers. The findings show that teachers viewed the physical and temporal environment as important for supporting learners with ASD. However, no teacher made significant adaptions to the physical structure of the classroom. Instead, adaptions to the design of the environment were made and in particular the use of visual supports in the environment. Teachers were more inclined to seek information and advice from colleagues than from courses or literature.

Keywords: *autism, classroom environment, visual aids, teacher perceptions, temporal environment.*

KAITLIN DAVY is a primary school teacher and completed the Professional Masters in Education in Mary Immaculate College (MIC) in 2019. FIONNUALA TYNAN is a lecturer in inclusive methodologies in MIC.

Corresponding author: *kaitdavy@gmail.com*

INTRODUCTION

It has become widely acknowledged that individuals with Autism Spectrum Disorder (ASD) have a variety of skills, talents and needs. Our understanding of the condition continues to develop. One characteristic of the condition that is now accepted in recent years is heightened sensitivity to stimuli (McAllister, 2010; NCSE, 2015; Kanakri et al., 2017). The assessment criteria outlined in the

Diagnostic and Statistical Manual (DSM) 5 by the American Psychiatric Association (APA) now includes a vulnerability to sensory experiences within its diagnosis of ASD (APA, 2013), a criterion which was not recognised within the DSM 4 (APA, 1994). Indeed, a diagnosis of ASD often comes with an additional diagnosis of Sensory Processing Disorder (SPD) (Tomchek el al., 2014; Fernández-Andrés et al., 2015). In response to this understanding, several authors and researchers have documented the implications of an over-stimulating environment for the child's learning and behaviour. This has particular relevance for the classroom.

This study set out to explore how teachers perceive the potential of the classroom environment to support pupils with ASD, and to identify aspects of the classroom environment (if any) that teachers adapt to facilitate the sensory needs of these learners. The literature in this area was clear that there are multiple benefits to adapting the classroom environment, however, the researcher wanted to discover if these adaptations were being implemented in practice.

LITERATURE REVIEW

According to the World Health Organisation (2021), one in 160 children worldwide has a diagnosis of ASD. In Ireland, a recent study by the Department of Health (DoH) (2018) outlined the difficulties in estimating the prevalence of the condition, but concluded that "there is a robust case for adopting an estimated prevalence rate of 1- 1.5%" (p. 6) of the population.

The Education Act (Government of Ireland, 1998) stresses the importance of an education for every child and outlines the need for support services and quality education for children with Special Educational Needs (SEN). More specifically, the *Task Force on Autism* Report (DES, 2001) acknowledges the need for an "appropriate education" (p.11) for children with ASD. The report, however, fails to define the criteria and expectations of an "appropriate education". A recognition that adaptions should be made to the environment in which the child with SEN is educated is outlined in the Disability Act (Government of Ireland, 2005), where it specifies that "reasonable alterations" (p.43) should be made. In 2015, the National Council for Special Education reviewed the educational provision for children with ASD. A section of this report emphasised the need for structured learning environments, including visual structures, as a vital aspect of provision. It made suggestions as to how the sensory needs of the child could be provided for in mainstream classrooms. Such recommendations mirror those proposed for learners with ASD in other jurisdictions such as Scotland (see Dunlop et al., 2009).

The ‘learning environment’ refers to the setting in which the child learns and develops. For the purpose of this article, it refers to the classroom. The learning environment, sometimes referred to as the “third teacher” (Barrett et al., 2019), goes beyond the physical environment and includes “features” (Bokas, 2016, p.26) and “tools” (Carden, 2018, p.339) put in place for individual pupils. According to Blackmore et al. (2011) (cited in Hughes et al., 2019, p.241), the learning environment includes social, cultural, temporal, physical and virtual aspects

Making alterations to the physical aspects of the classroom is one strategy to support learners with ASD (Schilling and Schwartz, 2004; Dunlop et al., 2009; McAllister, 2010; Kanakri et al., 2017). However, according to Ring et al. (2018, p.75), having a Universal Design for Learning (UDL) approach, is more inclusive, where “being able to control light, temperature, background noise to a certain extent will both reduce stigma attached to those with sensory differences and promote access to learning for everyone.” But to promote UDL we need to firstly understand the profiles and needs of learners who differ from ‘typically-developing’ or ‘neurotypical’ children. One difference can be issues with sensory integration.

Considering the sensitivity many children with ASD have to visual stimuli, the over-use of environmental visuals seems to be a recurring concern in the literature due to the impact on learning and engagement within the classroom (Kuhaneck and Kelleher 2015). Oliver (2016) acknowledges an appropriate learning environment as one which avoids sensory overload which would typically present as that with excessive classroom displays. Hanley et al. (2017) confirmed the negative effects of excessive classroom displays on pupils’ learning using eye-tracking technologies. They found the presence of visual displays had a significant impact on attention for all children, but particularly those with ASD. The longer these children attended to visual stimuli in the environment, the poorer their learning outcomes in individual lessons.

Conversely, research and literature have recognised the positive effects of certain visuals within the classroom environment which causes a conflict for teachers. Educational methodologists such as Good and Brophy (2000), Kyriacou (2007), Muijs and Reynolds (2011), Bonfield and Horgan (2016) and Tynan (2018) highlight the benefits of visual aids to stimulate discussion, encourage peripheral learning and act as a scaffold to learning. But it is essential that there is not an overuse of visual aids in the classroom leading to overstimulation of the child with ASD.

According to Piller and Pfeiffer (2016) the "temporal aspects of the environment play an essential role in the participation of children with ASD" (p. 109). This includes the timing and sequence of activities and routines. A visual schedule provides support for transitions and independence, making it a support within both the physical and the temporal environment. These schedules or 'visual timetables' provide the routine needed for children with ASD (McAllister and Maguire, 2012). They are useful in mainstream settings to promote on-task behaviour (Macdonald et al., 2018). Oliver (2016) noted that knowing the next step in the daily routine "provides structure, predictability and consistency" (p.148) for learners. A comprehensive literature review by Knight et al. (2015) showed that visual schedules could be deemed to be an evidence-based approach for individuals with ASD, showing the success of its use across various settings for individuals of all ages.

Despite the research carried out on the benefits of adapting the physical and temporal environment for the learner with ASD, the question remains: to what degree do class teachers know about, and make adaptations to, the learning environment to support pupils with ASD?

METHODOLOGY

This study used a qualitative approach to emphasise participants' experiences of ordinary events in natural settings (Punch, 2009). Qualitative research seeks to reveal "the authenticity of human experience" (Silverman, 2010, p. 6); in this case how participants perceive the use of the classroom environment to support learners with ASD in mainstream schools. The method of data collection was one-to-one semi-structured interviews by the first author. This helped to reduce the power differential of the researcher-participant relationship (Creswell, 2007).
The researcher used non-probability purposive sampling to interview five primary school teachers, in both rural and urban mainstream schools, in one West of Ireland county, who had experience of teaching children with ASD. Two of the participants worked in the same school: one was working in an ASD special class while the other was a mainstream class teacher. The remaining three teachers were mainstream class teachers at the time, one of whom had several years' experience working as a Special Education Teacher (SET).

The risks associated with any study can never be eliminated, however, steps can be made to minimise them. The researcher ensured that she was aware of her own values and beliefs to reduce bias. This was done through the use of a reflective

diary and through piloting the interview. Ensuring non-maleficence is essential when conducting educational research (Cohen et al. 2017); the researcher ensured all interview questions were non-biased, not leading and avoided any offence or distress for the participants (Cohen et al. 2017). All participants received both an information letter (to understand the aims and scope of the research) and an informed consent form. The information letter specified the participants' rights throughout the study, including their voluntary participation and their right to withdraw from the study at any stage without consequence. Confidentiality and an absence of traceability were at the foundation of ethical considerations (AERA 2011). Ethical approval was received from the Mary Immaculate Research Ethics Committee of Mary Immaculate College, Limerick.

The interviews were digitally recorded and transcribed. The data was analysed thematically using Braun and Clarke's six phase approach (2006), beginning with familiarisation with the data by reading the transcripts. The coding process then began by assigning 'initial codes' to the transcripts using an inductive analysis approach. The codes were sorted, and similar codes were combined. It was from these combined codes that themes emerged which were then reviewed and final themes were produced.

This research has a number of limitations. It has a very small sample size with participants selected from one county only; a larger sample of a wider geographical region would allow for greater credibility and transferability. It is also acknowledged that, in retrospect, certain responses from participants could have been further probed and discussed to glean more streamlined data.

FINDINGS AND DISCUSSION

Two main themes emerged from the data: the physical environment and the temporal environment.

The physical environment

Teachers talked about supporting the child with ASD through different aspects of the physical environment including visual schedules and classroom organisation. All participants found visual schedules to be very beneficial for children with ASD so "they know what's happening next" (Participant (P)5). P3 stated that the child in her class "has a coloured timetable on her table so it's very visual" adding that this means "the subjects [are] laid out clearly" for her. The success of visual schedules noted in various studies has lead them to being deemed an 'evidence-based approach' for individuals with ASD (Knight et al., 2015). However, the

participants found that visual timetables and schedules worked well for **all** children in the class (P1, P2, P5), highlighting the fact that specialised approaches can also benefit the typically developing learner (Oliver, 2016; Ring, 2018) This underscores the value of a UDL approach (Westwood, 2013). Another participant (P1) described the use of a visual schedule for the whole class and "a personal timetable" for the child with ASD to show that sometimes individual adaptations are needed.

In addition to the use of visual schedules, classroom organisation or the physical structure of the classroom, was also acknowledged by some participants. Two of the five teachers emphasised the importance of providing organisation boxes (P3) or an organisation shelf (P2) to help support the child in the classroom. This correlates with findings by Goodall (2015). It was suggested by P5 that the children need a "safe place" within the classroom which links to the works of Macdonald et al. (2018) who promote the use of structured work systems for pupils with ASD.

It was interesting to note that no teacher made physical changes to the classroom environment in terms of light, sound, furniture or floor covering. The participants were asked to discuss what adaptions they would make to the classroom set-up in order to facilitate a child with ASD, however they were not probed to discuss light, sound, furniture or floor covering to avoid leading questioning. They possibly focused on changes with which they felt they could control themselves. Such physical changes to, e.g., light, would typically support the sensory needs of the learner with ASD (Dunlop et al. 2009) but may have funding implications. Teachers did not mention the possible impact of classroom sensory stimuli on the learner with ASD which has the potential to decrease concentration and increase anxiety and behavioural issues (Howe and Stagg, 2016). Similarly, many authors posit that classrooms can provide an over-stimulating environment for pupils with ASD through the over-use of visual displays (Kuhaneck and Kelleher, 2015; Oliver, 2016; Hanley et al., 2017). The findings of this study showed only one participant (P2) acknowledged this concern and outlined how she would seat a child somewhere "with not too many distractions". It is not clear if a lack of awareness by the other participants of the impact of over-stimulating learning environments for learners with ASD prevented them from discussing this strategy.

The temporal environment

The temporal environment has strong links to the physical environment whereby the daily sequence of activities can be displayed through a visual timetable (Ring, 2018). All participants referred to their attention to the temporal environment to support learners with ASD. P5 acknowledged that the school day "needs to be very

structured for them" (P5). Three of the five teachers in the study discussed how they provided a structured routine within the classroom for the child with ASD (P1, P3, P5). The participants that referred to routine conveyed its importance in supporting the child, stating that "everything has a routine in this class" (P1) and that "definitely having routine" impacts the child's learning (P3). This sense of routine helps to reduce learner anxiety and supports organisational skills (Dunlop et al., 2009).

The participants also recognised the implications of allowing for "transition times" during the daily routine (P2) and had an understanding that the child needed to be informed in advance when there was a change in the daily schedule (P3, P5). In addition, a need for sameness was a feature of ASD which was recognised by P4 and P5 and was a factor in decision making within the classroom when adaptions were necessary. The participants understood that these changes were necessary for the child's development stating: "I couldn't imagine if you … make no allowances for anything and made no changes to the way anything was done, that they would flourish" (P1). This difficulty with changes to routines is linked to the cognitive theory of executive dysfunction, a key aspect of ASD (Boucher, 2017).

CONCLUSIONS AND RECOMMENDATIONS

The findings showed that the temporal environment was a greater consideration for teachers than adaptations to the physical environment to support learners with ASD in the mainstream classroom. Visual timetables were found to be a vital resource in the classroom for all participants, not just for pupils with ASD but for all pupils. It was also found that teachers did not make changes to the physical classroom environment which may indicate a lack of awareness of the significance of environmental impact on the sensory needs of a pupil with ASD but also the fact that such changes require more consultation, time and money. In addition, teachers highlighted the benefits of classroom routines and highly organised classrooms to support the psychological safety of students. In light of these findings, a number of recommendations are made.

1. A Universal Design for Learning (UDL) should be adopted by teachers. This means fewer adaptations would be needed when a student with ASD would be in the class. To this end, visual timetables, routines for transitions within the classroom and an organised physical environment should be part of the structure of every classroom.
2. To fully understand the needs of learners with ASD, including their likely sensory needs in the classroom context, teachers are encouraged to engage

with high quality professional development using the expertise of staff members, attending courses in local education centres or through Middletown Centre for Autism or those organised by the National Council for Special Education. Many third level institutions also offer accredited courses in supporting learners with ASD, such as the Graduate Certificate/Diploma in Autism Studies offered by Mary Immaculate College.

3. As practical strategies for teachers, the learning environment should be structured with clearly defined curriculum areas on display in designated areas, rather than random items hung on the walls in a disorganised fashion. The student with ASD should be seated in an area where they have minimal distractions (which will vary from student to student and from classroom to classroom). Data projectors should be switched off when not in use and natural light should be available in the classroom whenever possible to avoid the use of fluorescent classroom lights.

Due to the small sample used for this study it must be clarified that these results cannot be generalised and further research using a larger sample size would be appropriate. It is also important to acknowledge that changing the classroom environment alone is not a solution to the inclusion of children with ASD in mainstream schools, it is "only one component to consider" (Mcallister and Maguire 2012, p. 111). Perhaps most importantly in future research it is essential to explore the experiences of learners with ASD to ascertain the impact of sensory stimuli on their learning in the mainstream classroom.

References

American Educational Research Association (AERA) (2011) Code of ethics, *Educational Researcher*, 40(3), 145-156.

American Psychiatric Association (APA) (1994) *Diagnostic and Statistical Manual of Mental Disorders, 4th ed. (DSM 4)*, USA: Author.

American Psychiatric Association (APA) (2013) *Diagnostic and Statistical Manual of Mental Disorders*, *5th ed. (DSM 5),* USA: APA.

Barrett, P., Treves, A., Shmis, T., and Ambasz, D. (2019) *The impact of school infrastructure on learning: a synthesis of the evidence*, Washington: World Bank Publications.

Bokas, A. (2016) *Building powerful learning environments: from schools to communities*, London: Rowman and Littlefield.

Bonfield, T. and Horgan, K. (2016) *Learning to teach, teaching to learn*, Dublin: Gill.

Boucher, J. (2017) Autism spectrum disorder: characteristics, causes and practical issues, 2nd Ed., London: Sage

Braun, V. and Clarke, V. (2006) Using thematic analysis in psychology, *Qualitative Research in Psychology*, 3(2), 77-101.

Carden, C., Ed., (2018) *Primary teaching: learning and teaching in primary schools today*, London: Learning Matters.

Cohen, L., Manion, L. and Morrison, K. (2017) *Research methods in education, 8th ed.,* London: Routledge.

Creswell, J.W. (2007) *Qualitative inquiry and research design; choose among five approaches, 2nd ed*., London: Sage Publications.

Department of Education and Science (2001) *Educational provision and support for persons with autistic spectrum disorder: Report of the task force on autism*, Dublin: Stationery Office.

Department of Health (DoH) (2018) *Estimating prevalence of Autism Spectrum Disorders (ASD) in the Irish population: A review of data sources and epidemiological studies*, Dublin: Author.

Dunlop, A.W., Tait, C., Leask, A., Glashan, L., Robinson, A., Marwick, H., Smith, M., Carr, G. and MacKay, T. (2009) *The autism toolbox: An autism resource for Scottish schools*, Edinburgh: The Scottish Government.

Education Act (1998) Act, Dublin: Stationery Office.

Fernández-Andrés, I., Pastor-Cerezuela, G., Sanz-Cervera, P. and Tárraga-Míngeuz, R. (2015) A comparative study of sensory processing in children with and without autism spectrum disorder in home and classroom environments, *Research in Developmental Disabilities*, 38, 202-212.

Good, T.L. and Brophy, J.E. (2000) *Looking in classrooms*, 8th ed., New York: Longman.

Goodall, C. (2015) How do we create ASD-friendly schools? A dilemma of placement, *Support for Learning*, 30(4), 305-326.

Disability Act (2005), Dublin: Stationery Office.

Hanley, M., Khairat, M., Taylor, K., Wilson, R., Cole-Fletcher, R. and Riby, D. (2017) Classroom displays - attraction or distraction? evidence of impact on attention and learning from children with and without autism, *Developmental Psychology*, 53(7), 1265-1275, available at: http://dro.dur.ac.uk/20263/1/20263.pdf [accessed on 19 Nov 2020].

Howe, F.E.J. and Stagg, S.D. (2016) How sensory experiences affect adolescents with an Autistic Spectrum Condition within the classroom, *Journal of Autism and Developmental Disorders*, 46, 1656-1668.

Hughes, H., Franz, J. and Willis, J. (2019) *School spaces for student wellbeing and learning: insights from research and practice*, Singapore: Springer.

Kanakri, S., Shepley, M., Tassinary, L., Varni, J., Fawaz, H. (2017) An observational study of classroom acoustical design and repetitive behaviours in children with autism, *Environment and Behaviour*, 49(8), 847-873, DOI: 10.1177/0013916516669389 [accessed 13 Mar 2021].

Knight, V., Sartini, E. and Spriggs, A.D. (2015) Evaluating visual activity schedules as evidence-based practice for individuals with Autism Spectrum Disorders, *Journal of Autism and Developmental Disorders*, 45, 157-178.

Kuhaneck, H. M. and Kelleher, J. (2015) Development of the classroom sensory environment assessment, *The American Journal of Occupational Therapy*, 69(6), 1-9.

Kyriacou, C. (2007) *Essential teaching skills*, (3rd Ed.), Cheltenham: Nelson Thornes.

Macdonald, L., Trembath, D., Ashburner, J., Costley, D. and Keen, D. (2018) The use of visual schedules and work systems to increase the on-task behaviours of students on the Autism Spectrum, *Journal of Research in Special Educational Needs*, 18(4), 254-266.

Martin, C.S. (2016) Exploring the impact of the design of the physical classroom environment on young children with autism spectrum disorder (ASD), *Journal of Research in Special Educational Needs*, 16(4), 280–298.

McAllister, K. (2010) The ASD friendly classroom: design complexity, challenge and characteristics, Design Research Society Conference, available at: https://www.researchgate.net/profile/Keith_Mcallister/publication/267684638_The_ASD_Friendly_Classroom_-_Design_Complexity_Challenge_and_Characteristics/links/54942cd30cf2e572fa53a8cb/The-ASD-Friendly-

Classroom-Design-Complexity-Challenge-and-Characteristics.pdf [accessed on 25 Mar 2021].

McAllister, K. and Maguire, B. (2012) Design considerations for the autism spectrum disorder-friendly key stage 1 classroom, *British Journal of Learning Support*, 27(3), 103–112.

Muijs, D. and Reynolds, D. (2011) *Effective teaching: Evidence and practice*, (3rd Ed.), Los Angeles: Sage.

National Council for Special Education (NCSE) (2015) *Supporting students with autism spectrum disorder in schools, NCSE Policy Advice No. 5*, Meath: NCSE.

Oliver, M. (2016) *Kindergarten and ASD: how to get the best possible experience for your child*, London: Jessica Kingsley Publishers.

Piller, A. and Pfeiffer, B. (2016) The sensory environment and participation of preschool children with autism spectrum disorder, *Occupation, Participation and Health*, 36 (3), 103–111, available at: https://pdfs.semanticscholar.org/5a5f/cbd6f18f1d424105e64fa34d8968fe4d26ab.pdf [accessed on 05 April 2019].

Punch, K.F. (2009) *Introduction to research methods in education*, Los Angeles: Sage.

Ring, E., Daly, P. and Wall, E., eds., (2018) *Autism from the inside out: a handbook for parents, early childhood, primary, post-primary and special school settings*, Dublin: Peter Lang

Schilling, D. L. and Schwartz, I. S. (2004) Alternative seating for young children with autism spectrum disorder: effects on classroom behavior, *Journal of Autism and Developmental Disorders*, 34(4), 423-432.

Silverman, D. (2010) *Doing qualitative research*, 3rd ed., London: Sage Publications.

Tomchek, S. D., Huebner, R. A. and Dunn, W. (2014) Patterns of sensory processing in children with an autism spectrum disorder, *Research in Autism Spectrum Disorders*, 8(9), 1214-1224, available at: https://www.sciencedirect.com/science/article/pii/S175094671400141X?via%3Dihub [accessed on 20 Mar 2021].

Tynan, F. (2018) Developing a positive classroom environment, in Tynan, F.

and Nohilly, M. *Wellbeing in schools everyday: A whole-school approach to the practical implementation of wellbeing in primary schools*, Limerick: Curriculum Development Unit (Mary Immaculate College), pp. 45-62.

Westwood, P. (2013) *Inclusive and adaptive teaching: Meeting the challenge of diversity in the classroom*, London: Routledge.

World Health Organisation (2021) *Autism spectrum disorders*, available at: https://www.who.int/news-room/fact-sheets/detail/autism-spectrum-disorders [accessed on 23 June 2021].

REACH: Journal of Inclusive Education in Ireland, Vol. 34.1 (2021), 18-28.

Identification of Autism in Girls: Role of Trait Subtleties, Social Acceptance and Masking

In reaction to the increased amount of autism research and the greater prevalence of autism in boys, this study explored if autism traits in girls are more socially accepted and if this might be a factor in girls masking their difficulties/needs and prevent early identification. Using a Pragmatist paradigm, ten semi-structured interviews were carried out with five parents of daughters with autism, four teachers of female students with autism and a young woman with autism. The findings indicate that the traits of autism often present more subtly in younger girls. It is this subtlety that suggests that their traits may be socially accepted and therefore a factor in their under-identification. The data also revealed that girls increasingly mask their social difficulties as they reach adolescence, as social pressures increase which simultaneously elevates anxiety. In conclusion, this study highlights that those involved in identification/intervention of autism should be aware of the trait subtleties of autism in girls, masking and mental health in order to improve identification.

Keywords: *Girls and Autism, masking, traits, social acceptance, anxiety*

PAULA CORSCADDEN is a primary school teacher and has taught for several years in classes for children with autism. This research was carried out as a component of her Masters in Special Educational Needs (ASD). ANN MARIE CASSERLY is a Lecturer in Special Education in St. Angela's College, Sligo and is Co-ordinator of the Postgraduate Diploma in Special Education.

Corresponding author: *acasserly@stangelas.nuigalway.ie*

INTRODUCTION

In recent years, the strong male bias prevalence of autism and the possible under-estimation of occurrence of autism in girls has been under investigation (Werling and Geschwind, 2013). Carpenter, Happé and Egerton (2019) suggest that many girls with autism are presenting with different and more subtle autism traits to boys, although with some overlap.

This research was inspired by previous research and theory, where the under-recognition of autism in girls is influenced by the fact that society is not excessively concerned or surprised by autism traits in girls and accepts the way in which these traits manifest themselves. The effects of under-identification in girls, the masking that girls engage in to camouflage their social difficulties and the associated anxiety due to masking these social difficulties are explored. Overall, this study aims to investigate if the traits of autism in girls are socially accepted and if this prevents early identification and continues to conceal girls' social needs and anxiety. The research questions include:

- What traits of autism are identified in girls and are these socially accepted?
- What masking behaviours do girls exhibit?
- What influence has masking on girls and their anxiety?

LITERATURE REVIEW

The theoretical literature is reviewed, discussing autism traits, masking and socialisation. From this exploration, the uniqueness of autism and its subtleties in girls is suggested to be more apparent.

Traits of Autism

Autism or Autism Spectrum Disorder (ASD) occurs on a continuum and is "characterised by persistent deficits in the ability to initiate and to sustain reciprocal social interaction and social communication and by a range of restricted, repetitive, and inflexible patterns of behaviour and interests" (International Classification of Diseases (ICD-11), 2018) and can appear later "when social demands exceed limited capacities" (Diagnostic and Statistical Manual of Mental Disorders (DSM–5), 2013). The DSM-5 (2013) also refers to individuals with autism having difficulty building friendships appropriate to their age.

Most autism studies have concentrated mainly on males, which may further concrete the notion of autism as a male condition (Lai, Baron-Cohen and Buxbaum, 2015). Current studies propose that autism may present itself differently in girls while other theories postulate differing social expectations between boys and girls. These preconceptions may hinder our ability to identify girls with autism and reduce their chances of accessing support (Carpenter et al., 2019). Kirkovski, Enticott and Fitzgerald (2013) found that of 113 studies of gender differences in ASD, 78% support the theory that a different female phenotype for ASD exists. Whether these traits are completely distinct from those of boys with autism or are a result of other factors remains under question (Baldwin and Costley, 2016). These factors

include questions whether current measures which are predominantly based on knowledge of male autistic traits adequately capture all manifestations of autism in females, (Mandy and Lai, 2017) and prevent/delay the identification of autism in girls. Rabbitte, Prendeville and Kinsella (2017) looked at the diagnostic process for seven girls with autism in Ireland and found that six had commenced school, including two girls reaching adolescence, before receiving an identification. Other factors include societal expectations of girls, and masking which refers to the ability of females with autism to blend in, as they attempt to mimic social skills of others (Carpenter et al., 2019).

While biological and developmental differences are common identifiers of autism between genders (Werling, 2016), social and environmental influences also play a part. As a society we can place very differing social expectations on boys and girls. Sedgewick, Hill and Pellicano (2019) found that girls are socialised from birth in different ways, and gender-focus activities and environments may influence this. These preconceptions may hinder identification of girls with autism. Van Wijngaarden-Cremers, Van Eeten, Groen, Van Deurzen, Oosterling and Van der Gagg (2013) found that girls with ASD show alternative and less severe social and communicative difficulties than boys which can lead individuals in the child's immediate circle to associate difficulties with shyness or anxiety. These types of internalising difficulties where emotions are withheld and are more subtle, may be considered normal in females (Rucklidge, 2010). Geelhand, Bernard, Klein, Van Tiel and Kissane (2019) discuss the presumption that girls will grow out of atypical behaviours in contrast to boys, and parents may be less concerned about atypical traits in girls.

Socialisation and Masking

Milner, McIntosh, Colvert and Happe (2019) report that females are pressured to be more social than males and that social pressures increase particularly in more complex social settings (Sucksmith, 2012) while they simultaneously cope with autism. Baldwin and Costley (2016) suggest that females with autism may present with a greater interest in socialisation, more in line with social and gender norms but experience higher levels of comorbid/coexisting emotional difficulties. The concept of masking (Dworzynski, Ronald, Bolton and Happe, 2012) is predominantly associated with girls, as they attempt to conceal their difficulties and use their stronger social strengths to mimic the social skills of typically developing girls.

It has been an established assumption that people with autism are not socially motivated and struggle with friendships (Chevallier, Kohls, Troiani, Brodkin and

Schultz, 2012). Tierney, Burns and Kilbride (2016) found that girls with autism desire to have friends and to fit in but rely on compensatory behaviours, for example learning rules or social behaviours, to be allowed to participate in the group. These types of behaviours can mask their social difficulties (Dean, Harwood, and Kasari, 2017) resulting in delayed detection/intervention. Sedgewick et al. (2019) found that girls with autism differ from neurotypical girls in that they predominantly had only one or two best friends, albeit more intense friendships. As social environment demands change, alongside pubertal changes and psychological factors, May, Cornish and Rinehart (2014) assert that the severity, manner and expression of difficulties may alter as the child matures, thereby increasing identification of girls with autism in their teens.

Another consequence of masking is anxiety, where girls are more inclined to hide their traits and keep their emotions under wraps (Carpenter et al., 2019). Tierney et al. (2016) found that the use of this strategy impacted negatively on wellbeing, while Mandy and Lai (2017) reported exhaustion and extreme stress. Girls with autism may be more prone to internalisation of their autism traits putting undue pressure and stress on themselves (Young, Oreve and Speranza, 2018), thus increasing anxiety.

METHODOLOGY

Qualitative research using a Pragmatist paradigm was chosen as the most relevant for this study. Gonzales, Brown and Slate (2008, p. 3) state that qualitative research "gives voices to participants and it probes issues that lie beneath the surface of presenting behaviours and actions". The Pragmatist paradigm offered a method which was best suited to the research questions (Tashakkori and Teddlie, 1998) without getting into philosophical debates about the best approach. The sample included 10 participants; namely 4 mainstream primary teachers teaching girls with autism, 1 young woman (19 years) with autism and 5 parents of these girls and young woman. Multiple-participants and three interview-schedules aided triangulation.

Ten semi-structured interviews with open-ended questions were carried out with teachers, parents and the young woman with autism. A pilot interview was conducted with one parent and one teacher of a girl with autism, to gauge timing, user-friendliness and to review proposed interview questions. Each interview was recorded and transcribed for analysis and the data was processed in accordance with the Data Protection Act 2018 (Government of Ireland, 2018). Thematic

analysis (Clarke and Braun, 2017) using NVivo identified patterns, codes and common themes and its use allowed flexibility in interpreting and making sense of the data. Credibility and trustworthiness were ensured through prolonged engagement with the data, different categories of interviewees and interviewee debriefing and checks. Final analysis of data resulted in three themes: traits of autism, socialisation and masking, and anxiety.

Research ethics' advice (BERA, 2018) and the principles for carrying out research were adhered to throughout the research process. Approval was obtained from the researchers' university of study/work. Participants including the young woman with autism and her mother were informed about what the participation involved (verbally and written), the voluntary and autonomous nature of their consent and participation, their right to not answer questions or withdraw at any time. Assurances of anonymity and confidentiality were given.

FINDINGS

This study explored whether autism traits in girls are more socially accepted and if this contributes to the concealment of girls' needs and prevents early identification. This section presents the findings under three themes, *traits of autism, socialisation and masking* and *anxiety*. Parents and teachers are referred to as P and T respectively.

Parents confirmed their daughters' ages on identification. Two girls were identified at 3 and 4 years, two girls at 11 years and one girl at 14 years. Of the four teachers interviewed, only one had taught a female student prior to this year.

Traits of Autism

Parents of girls (N=2) receiving an earlier autism identification reported in keeping with 'traditional' concepts of autism, characteristics such as communication and sensory difficulties. Parents of girls (N=3) receiving a later diagnosis, identified no traits definitively associated with autism but more as a personality quirk, differences sometimes being put down to creativity and artistic talent or the child potentially "*growing out of atypical behaviours*". One parent (P4) described that many people "*wouldn't even know*" her daughter had autism and two parents stated their daughters were assessed for other reasons and not autism. P5 stated how sociable her daughter was when younger, "*she was always part of a group of friends in primary school, there were never any alarm bells there*" while two parents described their daughters as very quiet by nature. P1 admitted denial on

identification and another stated how "*it was not obvious at all"* (P5). P5 explained that she began to realise that the anxiety, stress, and emotional outbursts may have been as "*a result of something underlying*" in her daughter. Another parent (P4) with a child (male) with autism reported how her daughter's traits of autism manifested differently.

All four teachers described their female students positively. Descriptions included, "*very capable, confident, responsible and independent*" (T2), "*very pleasant, very precise*" (T3) and "*quite chatty and talkative"* (T4), "*very bubbly and can be very friendly*" (T1). Two teachers described their female students as "*quirky*" (T3, T4) and admitted difficulty identifying autism, while T2 described her student as "*so mature, there was no nonsense with her".* T3 conveyed that without his autism training, he would not have been aware that his student had autism. Most teachers felt that autism traits were *"more pronounced in boys"*, with T2 stating that the female and male student with autism in her class were "*poles apart*". T4 suggested that the possible differences could be "*the coping mechanisms, and maybe their* (girls) *self-awareness of the diagnosis*."

Socialisation and Masking

All five parents interviewed stated their daughters struggled with acquiring social skills and acknowledged this gap widened as they got older. Parents of girls who received a later diagnosis stated that this assisted in the disclosure of their daughters' needs. Friends were described more accurately as "*acquaintances*", and P2 described it as a "*more clumsy, unnatural approach*", with some close school friendships not manifesting themselves in the same way that "*typical girls'* relationships" do, friendships not being "*as solid or as natural"* (T2) and a tendency to stick to 2-4 friends and preferring one best friend.

> "*There's a couple of close-ish friends, but her relationship with her friends mightn't look like a typical kid or typical girls' relationship, she wouldn't see her friends as frequently*." (P2)

When asked about friends, the young woman with autism explained "*it was difficult for me to keep up with a group and their conversation*", and how "*draining*" a friendship was when she was uncomfortable in it.

The concept of masking or camouflaging in relation to girls and autism was discussed. Two parents stated their daughters used masking. P2 stated it distressed her daughter.

> *"She was basically caging it all…. like putting on her mask for school life….*

she was just completely stressed out, sweating, very upset…. underneath that exterior she was just in turmoil herself which resulted in stress and anxiety, emotional problems at home." (P2)

This student's teacher didn't witness this masking; hence the student was able to "*mask*" without her teacher realising. The parent of the young woman with autism felt her daughter utilised "*masking*" in school, when she walked from class to class with a group of girls, to avoid being on her own, rather than friendship. P4 described how her daughter had received a present of slime but when asked in school about the present received, she said an iPad, in keeping with presents her peers had requested. This parent conveyed how her daughter felt more her own person at home, "*I love when I come home because I can be me*". In school, her teacher (T4) did not see evidence of this, suggesting there may be social elements within a classroom that even teachers are not privy to.

Anxiety

The need to fit in or conform to their peers caused much anxiety for the five girls and P2 and P5 described the internalisation of anxiety, where their daughters to the outside world seemed like they were coping, but at home, they weren't. Parents described how their daughters "*hold it together*" (P2, P4, P5) in school, where they consciously attempted to suppress their emotions but on arriving home, emotions would pour out. The young woman with autism identified anxiety around socialising where she would remain quiet for fear of being judged '*anxious'* around people she was not comfortable with, but vocal in her family environment.

DISCUSSION

The current study found that girls presented with more subtle traits of autism than boys which is supported by Kirkovski et al.'s (2013) theory regarding a female phenotype for autism. There has been debate whether these traits are totally distinct or due to other factors (Baldwin and Costley, 2016) such as diagnostic assessments designed for male participants, girls' ability to mask their autism, the effect of societal expectations regarding gender and behaviour, and how autism traits in girls are perceived. Findings in this current study indicated that girls identified later were described as *quiet, responsible*, *quirky, capable, precise, compliant* and *mature*.

The acceptance of atypical behaviour (for example quirkiness and shyness) in girls seems to be higher than in boys and this may contribute to the under/later identification of autism in girls. Three girls received diagnoses at an older age,

similar to Rabbitte et al. (2017), suggesting that their characteristics/traits didn't unduly concern parents/teachers. Whether these traits are hidden, or merely cannot be seen due to blending into the various components that constitutes being a girl in society, is in question here. Geelhand et al. (2019) hypothesised that gender may play a role in parents' presumptions that their child and particularly daughters will '*grow out of atypical behaviours'* - similar to findings in this current study. Another factor linked with later identification is the association of atypical behaviours with personality traits. The findings demonstrated that the term '*quirky'* was associated with slightly '*atypical'* behaviour but not behaviour that caused great concern that required further assistance/intervention. May et al. (2014) reinforces the idea that autistic female traits present in some girls prevents attention being brought to them, suggesting that girls internalise their autism traits and these 'internalising' behaviours can be considered 'normal' (Rucklidge, 2010).

Milner et al. (2019) discuss the pressure on girls to be sociable in comparison to boys. Masking/camouflaging (Carpenter et al., 2019) by girls with autism abilities allows mimicking of social skills of their typically developing female peers. Chevallier et al. (2012) presume that individuals with autism are not socially motivated and struggle with friendships. However, Tierney et al. (2016) found that most girls with autism want to fit in with their peers. The current findings seem to confirm this social motivation in all 5 girls, masking their feelings to fit in. The second element regarding friendships was also apparent in the findings. All girls had some difficulty making and maintaining friendships, with four of the girls experiencing greater problems nearing or during adolescence when autism traits may not become apparent until a person is older "when social demands exceed limited capacities" (ICD-11, 2019). The intensity of friendships for some girls with autism and the desire to have a best friend has been reported (Sedgewick et al., 2019) and confirmed in this current study. Dean et al. (2017) suggest that girls with autism may be able to hide their social challenges from teachers similar to the findings reported here.

Tierney et al. (2016) report that girls with autism using masking strategies, often became overwhelmed and emotional, as they exceed their threshold to maintain their efforts. All parents and teachers in this current study referred to anxiety in relation to their daughter/student as they got older. Increased social pressures, changes in friendship dynamics and expectations as puberty approaches suggest that female autism traits, if previously socially accepted by their peers may begin to pose a problem. The findings indicated that as girls' anxiety increased, the female traits of autism become more pronounced, thus creating difficulties being socially accepted. Mandy and Lai (2017) found that masking and social pressures

of friendship can cause a great deal of exhaustion, anxiety and stress for adolescent girls which may be due to the internalisation of their autism traits.

CONCLUSION

In conclusion, this study highlights that autism traits in younger girls may be more subtle and hence, they are socially accepted. However, as girls mature, these traits are less subtle, and increased masking is apparent as girls struggle to keep up with the social ability of their peers. Although 'masking' can provide them with more social acceptance, it elevates anxiety. Those involved in identification/intervention should be made aware of the trait subtleties of autism in girls, masking and mental health in order to improve identification and intervention strategies.

REFERENCE LIST

Baldwin, S. and Costley, D. (2016) The Experiences and Needs of Female Adults with High-functioning Autism Spectrum Disorder, *Autism,* Vol. 20 (4), pp. 483-495.

British Educational Research Association (2018) *Ethical Guidelines for Educational Research* (4th ed), London.

Carpenter B., Happé, F. and Egerton J. (2019*) Girls and Autism, Educational, Family and Personal Perspectives,* Oxon & New York: Routledge.

Chevallier C., Kohls G., Troiani V., Brodkin E.S. and Schultz, R.T. (2012) The Social Motivation Theory of Autism, *Trends in Cognitive Sciences,* Vol. 16 (4), pp. 231–239.

Clarke, V. and Braun, V. (2017) Thematic Analysis, *The Journal of Positive Psychology*, Vol. 12 (3), pp. 297- 298.

Dean, M., Harwood, R. and Kasari, C. (2017) The Art of Camouflage: Gender Differences in the Social Behaviors of Girls and Boys with Autism Spectrum Disorder, *Autism*, Vol. 21 (6), pp. 678-689.

Dworzynski, K., Ronald, A., Bolton P. and Happe, F. (2012) How Different are Girls and Boys above and below the Diagnostic Threshold for Autism Spectrum Disorders? *Journal of the American Academy of Child and Adolescent Psychiatry,* Vol. 51 (8), pp. 788-797.

Geelhand, P., Bernard, P., Klein, O., Van Tiel, B. and Kissane, M. (2019*)* The Role of Gender in the Perception of Autism Symptom Severity and Future Behavioural Development, *Molecular Autism,* Vol. 10 (16), pp. 1-8.

Gonzales, L., Brown, M.S. and Slate, J. R. (2008) Teachers who left the Teaching Professions: A Qualitative Understanding, *The Qualitative Report*, 13 (1), pp.1-11.

Government of Ireland (2018) *Data Protection Act 2018,* Dublin: The Stationary Office.

Kirkovski, M., Enticott, P.G., and Fitzgerald, P.B. (2013) A Review of the Role of Female Gender in Autism Spectrum Disorders, *Journal of Autism Developmental Disorders,* Vol. 43, pp. 2584 -2603.

Lai, M.C., Baron-Cohen, S. and Buxbaum, J.D (2015) Understanding Autism in the Light of Sex/Gender, *Molecular Autism,* Vol. 6 (24), pp.1-5.

Mandy, W. and Lai, M. C. (2017) Towards Sex and Gender - Informed Autism Research*, Autism*, Vol. 21 (6), pp. 643-645.

May, T., Cornish, K. and Rinehart, N. (2014) Does Gender Matter? A One-year Follow-up of Autistic, Attention and Anxiety Symptoms in High-functioning Children with Autism Spectrum Disorder, *Journal of Autism and Developmental Disorders,* Vol. 44, pp. 1077-1086.

Milner, V., McIntosh, H., Colvert, E. and Happe, F. (2019) A Qualitative Exploration of the Female Experience of Autism Spectrum Disorder, *Journal of Autism and Developmental Disorders,* Vol. 49, pp. 2389-2402.

Rabbitte, K., Prendeville, P. and Kinsella W. (2017) Parents' Experiences of the Diagnostic Process for Girls with Autism Spectrum Disorder in Ireland: An Interpretative Phenomenological Analysis, *Educational & Child Psychology*, Vol. 34 (2), pp. 54-64.

Rucklidge, J.J. (2010) Gender Differences in Attention-deficit/Hyperactivity Disorder, *Psychiatric Clinics of North America,* Vol. 33 (2), pp.357-373.

Sedgewick, F., Hill, V. and Pellicano, E. (2019) 'It's different for girls': Gender Differences in the Friendships and Conflict of Autistic and Neurotypical Adolescents*, Autism*, Vol. 23 (5), pp. 1119-1132.

Sucksmith, E. (2012) *The Broader Autism Phenotype in the Parents of Children*

with Autism Spectrum Conditions (unpublished PhD thesis), The Open University.

Tashakkori, A. and Teddlie, C. (1998) *Applied Social Research Methods Series, Vol. 46. Mixed Methodology: Combining Qualitative and Quantitative Approaches.* Sage Publications, Inc.

The American Psychiatric Association (2013*) Diagnostic and Statistical Manual of Mental Disorders (DSM-5),* American Psychiatric Publishing.

Tierney, S., Burns, J. and Kilbride, E. (2016) Looking Behind the Mask: Social Coping Strategies of Girls on the Autistic Spectrum, *Research in Autism Spectrum Disorders,* Vol. 23, pp. 73-83.

Van Wijngaarden-Cremers, P.J.M., Van Eeten, E., Groen, W.B., Van Deurzen, P.A., Oosterling, I.J. and Van der Gagg, R.J. (2013*)* Gender and Age Differences in the Core Triad of Impairments in Autism Spectrum Disorders: A Systematic Review and Meta-analysis, *Journal of Autism and Developmental Disorders*, Vol. 44, pp. 627-635.

Werling D.M. (2016) The Role of Sex-differential Biology in risk for Autism Spectrum Disorder. *Biology of Sex Differences,* Vol. 7, DOI 10.1186/s13293-016-0112-8.

Werling, D.M. and Geschwind, D.H. (2013) Understanding Sex Bias in Autism Spectrum Disorder, *Proceedings of the National Academy of Sciences of the United States of America,* Vol. 110 (13), pp. 4868- 4869.

World Health Organisation (2018) *International Classification of Diseases,* (11th revision), World Health Organisation.

Young, H., Oreve, M. J. and Speranza, M. (2018) Clinical Characteristics and Problems Diagnosing Autism Spectrum Disorder in Girls, *Archives de Pédiatrie,* Vol. 25, pp. 399-403.

REACH: Journal of Inclusive Education in Ireland, Vol. 34.1 (2021), 29-40.

Creating Communicative Opportunities for Autistic Children

Our approach to working with children with autism in this article is not about the engagement philosophies but rather is focussed at a social communicative level: not just hearing and seeing but listening and understanding, therefore, communicating respect and dignity to the child. This article provides case examples from a qualitative research project on the literacy practices of children with autism. The role of the qualitative researcher in this project is to seek to advance knowledge to assist practice and policy. This article sets out to engage you, the reader, in considering how you connect and communicate with autistic children in your practice. It is about communication and what communication might look like if we open our understanding to all possibilities. It is also about the balance of agency in the learning environment for children with autism.

Keywords: *Autism, communication, language, pedagogy*

CAROL-ANN O'SÍORÁIN is a lecturer in education in the School of Education, Hibernia College. MIRIAM TWOMEY is an assistant professor in education in the School of Education, Trinity College. CONOR MCGUCKIN is an assistant professor in the School of Education, Trinity College. MICHAEL SHEVLIN is a Professor in Inclusion in the School of Education Trinity College. The authors are active researchers in the Inclusion in Education and Society Research Group in the School of Education, Trinity College.

Corresponding author: *caosiorain@yahoo.co.uk*

A NOTE ON LANGUAGE USED WITHIN THIS ARTICLE

It has been the practice in inclusive education to promote a person first approach in respect to conversing about the person and their diagnosed conditions. This we call person-first language and it is aligned with the disability rights agenda. You will have noted in the abstract the use of person first language such as 'person with autism' but we also use identity first constructions such as 'autistic children'. In doing so we have tried to acknowledge the voices of some people with autism who prefer to be identified within a community of autistic persons (Gernsbacher, 2017). Kenny, Hatterersly, Molins, Buckley, Povey & Pellicano (2016) found that 40% of

people with autism prefer the use of identity first language 'autistic person'. This may seem like a deficit focused terminology, but it is intended to bring recognition to the expressed preferences of a diverse community (Please also see https://www.identityfirstautistic.org/).

Also, in terms of data interpretation, we acknowledge that qualitative research such as this relies upon an "outsider" understanding of "insider" phenomena. The lived experiences of the participants, and their well-developed dyadic relationships, may not always be evident in the research method. We acknowledge this truth and recognise that the data collected, how it was analysed and interpreted is only one part of the co-constructed relationships that were researched.

INTRODUCTION

Often, publications on the theme of autism and communication examine and promote evidence-based best practices in a problem-solving approach to the management and learning styles of children with autism. There is a lot of autism research that explores language and, by extension, communication processes. However, there is a paucity of discussion and exploration of the 'social transactions' that must occur for successful communication. That is, we argue, that more cognizance needs to be taken of the intrapersonal and interpersonal relationships that occur in the bio-ecological system of children and young people. To exemplify this, this article presents 'Checkpoints for Reflection' incorporating research and evidence informed practice case examples drawn from a larger study that investigated perceptions about literacy and children with autism among parents (n=24) and teachers (n=11). The case examples, Bert and Frances, are presented as a sample from naturalistic observations (n=63) in autism and primary classrooms.

COMMUNICATION OR COMMUNICATING

Parents in a recent study (O'Síoráin, 2018) defined literacy as 'understanding how the world works', 'it's how we interact', 'being able to connect, being able to connect with other people, to have the knowledge to be able to interact in conversations, to have an understanding of the world, to be able to sit and read a book and understand the words' (p. 170). Teachers in the study unanimously defined literacy as 'reading, writing and oral language' but when probed further to reflect on this and in how children with autism demonstrate being literate in their classrooms some teachers redefined literacy as 'communicating'.

'Communication and language are about making meaning, meaning for ourselves and meaning for and with others' McGough (2018, p.2). Children develop their formative language and communication skills at home (Weisleder & Fernald, 2013). However, when they move from the home environment to educational structures (e.g., early years education, school), much of the nuances of their ingrained and natural approach to language and communication is disrupted and requires reframing in this new context, 'school implies a new practice with new traditions and activity settings' (Hedegaard & Munk, 2020, p21. In Hedegaard & Fleer, 2020). Whilst true for all children, this becomes more acute for children with autism. In this new "communication space", educators are encouraged to reflect upon the developing knowledge and competence of the child. To do so, adult and professional expectancies of language and communication capabilities may need to be challenged. Using illustrative case examples, this article explores issues that are challenging - but also rewarding - for the reflective practitioner. The case examples demonstrate areas where communication by children with autism may not be stereotypical, or of the pre-determined format expected by the educator from previous (or expected) experience. These case examples serve to remind us as educators that communication is a two-way social construction that may often be bottom-up in development and identifies the implications of maximising effective communication regarding policy, practice, experience and outcomes.

HOW DO AUTISTIC CHILDREN COMMUNICATE?

Interaction is fundamental to communication and adults working with autistic children and young people may find that the autistic person may not be motivated to interact or communicate with them (Davies, 2012). This challenges relationships and requires us to explore our understanding of the phenomenon of interaction within the context of the social reality in which autistic children and young people exist. In supporting children and young people with autism we have to keep at the forefront of our approach the fact that multiple realities exist for these children. In essence we have to look beyond *what* is going on and be more reflective and reflexive to *how* interactions can be meaningful and engaging to the person with autism (O'Síoráin, 2018).

Even in our new Covid 19 world, if you take a moment to stop and stand and stare as you walk through the yard before school begins, you will hear the chatter, laughter and the noise of play. You'll see children self-constructing games and interacting both verbally and non-verbally, exchanging ideas, exploring possibilities, solving culturally relevant social problems and adapting social rules. Regardless of

culture, children can be seen playing with language and communication in a free and unrestricted manner adapting signs and codes to relate and engage with one another.

In the normal rules of interaction and communication children use play and playfulness to explore signs and codes in the process of realising who they are and to whom they are connected (Cregan, 1998). Playing with others encourages children in sharing signs and codes so that they can take risks and use what they know and have experience to gain a sense of belonging and a drive to learn more. However, when we (teachers, parents, educators) examine evidence from our classroom practice and our attitudes to this social semiotic playful language we must question whether we support and create opportunities for communication and social interaction or is there an erosion of these opportunities by adult imposed activities and expectations?

TWO CASE EXAMPLES: BERT AND FRANCES

Bert (age 6+) is a young boy enrolled in a special autism primary class attached to his local primary school. He transitioned to this class in the year of the study from the early intervention classroom along with three other peers. He is the middle child of three children. His parents are legally separated, and he lives with his mum. He is reported by his parents as being a very chatty, engaging young boy who is passionate about MineCraft®.

Frances (age 7) is a young girl enrolled in an autism classroom attached to her local primary school. She has co-morbid medical difficulties alongside her autism. She has significant co-ordination and language difficulties and is supported full time by a Special Needs Assistant (SNA). This SNA has been at Frances' side from initial enrolment in the school at age 5. Frances' parents do not attend the school but communicate via a communication notebook.

CHECKPOINT FOR REFLECTION:

Consider this scenario recorded in fieldnotes

Bert

One morning on alighting the school bus and on arrival to the autism classroom, Bert (age 6+) is observed as excited and moves from staff member to staff member saying, 'I got it in Dublin, I got it in Dublin!' He is directed to

his schedule and is prompted to take his first task card and is transitioned to his desk. He puts the task card in place and says to the assisting adult 'I got it in Dublin!'

No adult acknowledges him or seeks to find out what he got in Dublin? When he approaches his autistic peers they respond, some verbally and some non-verbally by looking at him and looking at what he is holding in his hand. Bert tells them, while holding out his slinky toy, 'but you can't have it, it's mine!' He pulls the toy back into his chest, holding it tightly with both hands.

REFLECTING ON BERT (1)

Communication is not easy between typically developing children let alone constructing it with and for someone who has a different approach to interpreting and responding. McGough (2018, p.2) argues 'communicative relationships are the context for entry into language'. She posits that it is essential for teachers of children with additional language needs to be alert to all communicative efforts and to value 'all of their potentialities' (McGough, 2018, p. 2). We need to ask why? Why did no adult respond to Bert's statement? When questioned, the teacher, in this instance, said that it was *'planned-ignoring'* as it was a *'recurrent, repetitive and stereotypical behaviour'* with a high frequency on alighting the school bus and on entering the classroom. Bert is considered by the practitioners within his classroom as 'non-verbal' because of his language practices. This is an interesting perspective on communication and warrants our consideration. What is important in considering this is the evidence, from the observation sets, that the teacher in her practice is observed engaging dialogically with Bert as a 'verbal' child. So, understanding how and why we use language to interpret literate behaviours such as non-verbal behaviours and minimally verbal behaviours needs our consideration. We need to look at what ***we*** are doing and why ***we*** are doing it, it is better to reflect on our own practice and to question 'Am I doing the 'right' thing or doing things right?

- Is this response and action of 'planned-ignoring' valuing the integrity of Bert's communications or is it a good strategy from evidenced-based best practice that will support Bert in establishing a more structured manner of communicating between social dyads and his community?
- How do we define language and communication? How do we value the participation and voice of our learners in their attempts to establish a sense of belonging to the community of the classroom?

WHY DO WE NEED TO 'STOP AND STAND AND STARE'?

Based on our research data, knowledge of relevant research from a multidisciplinary field and applied practice, there is an approach to working with children and young people with autism that becomes 'stereotypical and repetitive' based on assumptions underpinning autism teaching and interventions (O'Síoráin, 2018). The case examples presented in the 'Checkpoints for Reflection' demonstrate areas where communication by children with autism may not be stereotypical or of the pre-determined format expected by the educator from previous (or expected) experience/practice/professional learning and from a deficit model approach. We hope to demonstrate that all interactions with a child or young person with autism are functional in terms of communication and often rich in detail that may be obscured by a homogenous approach to the child as a person.

REFLECTING ON BERT (2)

Autism when approached by a deficit concept may determine that Bert's approach to communicating with the adults in the environment lacks social-emotional reciprocity, has rigid greeting rituals and ritualised patterns of verbal and non-verbal behaviours (Fletcher-Watson & Happé, 2019), that he is highly fixated on his 'Slinky' with abnormal intensity. Bert is observed carrying his 'Slinky' toy everywhere around the school, using it to repeat phrases such as 'I got it in Dublin, I got it in Dublin!', 'Look, I got it in Dublin, no don't touch it's mine.'

In this example, consider, did Bert initiate a conversation? Did he reiterate it? And then emphasise it? Why was he met with the same adult response? Staff in this instance considered his statement '*I got it in Dublin'* as 'echoic' behaviour.

What do you know about echoic behaviours in children with autism? A key question: Is Bert echoing?

Echoic behaviours are a common feature in autistic children and young people, and it is well argued in the research literature that this may present an entry point to developing interactions and supporting communication. Valentino, Shillingburg, Conine and Powell (2012) posit that vocalisation is very important to the autistic language learner as it mediates confusion and opportunities to revisit a situation or concept for clarity. Echoing requires auditory discrimination and sensory memory. Wetherby and Prizant (2005) concur that this behaviour may evidence cognitive processing abilities (making complex associations). To echo something is to repeat a word, phrase, sentence or paragraph that has been previously heard.

In fact, Bert self-constructed his words and so this could be considered Palilalia. Palilalia is the repetition of self-constructed words or phrases (Skinner, 1957). More intense observation of Bert's language and communications is needed before we can determine if this is a vocal tic. What we do know, however, is that Bert was seeking an audience and whilst repeating his phrase again and again, he was directing the words to his audience and seeking to be heard. Bert's behaviours could be interpreted as communicative intent.

SOCIAL INTERACTIONISM AND COMMUNICATION

Halliday (1978) posits that language is a product of the social process and through engagement with others in the environment the child begins to explore and interpret signs and symbols for meaning making. Early interaction by means of non-verbal behaviours (for example, head turning in response to a stimulus, eye contact and facial expression) is a fundamental indicator of early communication. Working alongside autistic children and young people requires us to recalibrate our expectations of what communication looks like especially if the child is not attracted to our normal methods or expectations. Head-turning is a form of observation and even if for a moment the child connects with a communication event then they have experienced a social exchange of signs and codes. Movement is also considered a central feature of relationships and is acknowledged in early infancy research and may constitute agency and identity (Twomey & Carroll, 2018). Observation of communication and interaction practices in the cultural setting for all young children enables them to mimic, internalise and generate a concept of the functions of language (Conn, 2014). Indeed, imitation is considered vital for children with autism to feel understood and acknowledged by others. Nadel and Peze (1993) observed that imitation was crucial in the child's social cognitive development and that it established a sense of shared experience.

We know that children with autism and other developmental differences may not develop this ability at 'typical' milestones and hence signs and code exchanges may have less meaning and lead to a delay in communication skills rather than a deficit in speech production. We also know that being autistic may mean that the child can present with a different way of thinking and learning and may interpret signs and codes in a completely different way (Powell & Jordan, 2012). Developing this view, De Jaegher (2013) suggests that children with autism and their distinctiveness of movement, perception, and unique sensory, motor and nonverbal communication repertoire, may influence how they understand or respond to the world around them. Therefore, signs and code exchanges may

provide direction or instruction, but they can be limited for the child with autism and present as a finality. When there is a limited ability to realise that there is another message or an implication beyond the sign or code then the autistic child or young person may have no other options.

For example, this symbol 'no climbing'  only communicates what the child is prohibited from doing and doesn't inform the child what is permitted or expected. Communication stops and confusion, anxiety or frustration can develop.

CHECKPOINT FOR REFLECTION

Consider this scenario recorded in fieldnotes

Frances

Frances (age 7) is observed as an alert, young girl, aware of her environment and peers, and she actively seeks engagement of those around her. She has been diagnosed with autism and cerebral palsy. Her cerebral palsy is evidenced as a movement disorder with spasticity, chorea and oral motor dysfunction. It is difficult to measure Frances' expressive language as she has no vocabulary and no organised system of communication. She is evidenced approaching others in her classroom and vocalising and gesturing with irregular movements and intense eye contact. She responds to her SNA regarding all tasks, which demonstrates clearly that she has good oral receptive language skills. It was evidenced during the classroom observations that Frances enjoyed and responded well to nursery rhymes and songs and made efforts to join in and contribute. Frances can respond and complete a one-part instruction, but it is difficult to determine if she can complete a two- part instruction, as these were not requested of her during the period of observation. Frances enjoys jigsaw puzzles and music. There is no observational evidence of Frances engaged in a reading or writing task. Tasks set for Frances are at a very low manipulative level. She has a daily movement activity, which is centred on supporting the development of muscle tone and posture.

COMMUNICATING DIFFERENTLY

Communicating differently can pose challenges to our social interactions but we know from a vast body of research on how autistic learners learn that they usually prefer visual learning strategies, the use of arts-based activities and movement (Powell & Jordan 2012). Why is this important? Communication involves the

person creating meaning with another person, a 'communication partner'. Frances has many partners in her classroom, she has developed a method of delivering what she has to say through vocal sounds, eye contact and her best effort to control her bodily movements. Whether her communication partners understand her or not she is actively intent on communicating. Frances shows us that communication involves many more concepts other than turn-taking. It is about the co-construction of meaning, negotiating and becoming aware of the self in a community. Frances is playful in her 'non-verbal' expressions and this is a central element of Malaguzzi's (1996) 'Hundred Languages of Children' where communicative intent takes forms beyond language to gestures, movement, art and other diverse modes. Exploring a variety of modes of communication could give Frances better agency within her own environments.

Augmentative and alternative communication systems (ACCs) can enable communication and enhance social interaction via aided and unaided systems other than voice or written modes (Tincani and Zawacki, 2012; Rhea, 2008). Picture Exchange Communication System (PECS) (Bondy and Frost, 2001) is one such system that is relatively inexpensive and can be used across contexts by the autistic child or young person to aid social interaction and communication. Advancements in technology systems such as, Voice Output Communication Aids (VOCAS), provide plenty of possible options in low-tech and high-tech variables to ensure that a young autistic child/person can become part of a social interaction. Switch technology has vastly improved and as Frances is determined to keep active, she could find using this mode of communication both effective and affective (Odom et al., 2015).

From this case example consider such as: How might an ACCs device/product support Frances in communicating with others? What is the message of Skinner's Verbal Operants (1957)? How would the four phases of the PECS system (picture exchange, increased distance, picture discrimination and sentence construction) support her in the changing social contexts of her life?

CONCLUDING REFLECTIONS

Learners with autism may exhibit deficits in communication as opposed to speech difficulties. Delays in non-verbal functions can impact on later language development and the development of conventional communications. As teachers we need to keep a focus on and prioritise enhancing language and communication development. We know that increased opportunities to communicate supports autistic children in meaning making, locating themselves and others, creating

communities of friendships and predicting better outcomes for life-long learning. Findings from O'Síoráin (2018, p.254) indicate that ***we*** (teachers) are 'operating from an outmoded understanding of literacy and what it means to be literate' for children with autism. The findings also demonstrated that children with autism live and learn in two different communicative worlds; home (immediate and extended family and friends) and school (including afterschool services). Parents recognise the value in all communicative contributions from their child to 'connect' with them and their social world. This has implications and is evidence that schools and classrooms for children with autism need to consider the 'social processes of learning, and the possibilities of continuous creative problem-solving for success' in literacy practice (O'Síoráin, 2018, p.282). Feiler, Andrews, Greenhough, Hughes, Johnson, Scanlan & Ching Yee (2007) contend that the lack of connection between home and school practices creates a gap in transferring skills and hence an interruption to the inter-relatedness and inter-dependencies of learning language and communication.

The most important finding from this research project calls for extensive professional learning in communicative intent of children and young people with autism. Teacher education must include the development of language and communication through:

- Thought processes (what cognitive structures are in play for the autistic child in this communicative space?)
- Play and manipulation of objects, peer interactions and exchanges
- Mechanical practices such as echoic behaviours
  - how such behaviours communicate thought processes
  - how they offer opportunity to establish lines of communication and pathways to learning

To provide enhanced opportunities for professional learning we need significant research in the area of communication and literacy for children with autism and complex language needs. This in-turn requires a serious commitment from the Department of Education (Teacher Education section) for dedicated research funding for quality research projects to be conducted and reported upon nationally and internationally.

REFERENCES

Bondy, A. S., & Frost, L. A. (1994). The Picture Exchange Communication System. Focus on Autistic Behavior, 9(3), 1–19. https://doi.org/10.1177/108835769400900301.

Conn, C. (2014) *Autism and the Social World of Childhood: A Sociocultural Perspective on Theory and Practice.* Oxon: Routledge

Cregan, A (1998) Developing Language and Literacy: The role of the teacher. In G. Sheil & U. Ní Dalaigh (Eds.), *Developing Language and Literacy: The role of the teacher*. Dublin: Reading Association of Ireland.

Davies, G. (2012) Communication. In S. Powell, & R. Jordan (Eds), *Autism and Learning: A guide to good practice* (2nd ed.). London: Routledge

De Jaegher, H. (2013). Embodiment and sense-making in autism. *Frontiers in Integrative Neuroscience,* 7, 15.

Feiler, A., Andrews, J., Greenhough, P., Hughes, M., Johnson, D., Scanlan, M., & Ching Yee, W. (2007) Improving Primary Literacy: Linking home and school. London: Routledge.

Fletcher-Watson, S. & Happé, F. (2019) Autism: A new introduction to psychological theory and current debate. Oxon: Routledge.

Gernsbacher, M. A. (2017) Editorial Perspective: The use of person-first language in scholarly writing may accentuate stigma. *Journal of Child Psychology and Psychiatry.* Vol 58 (7), 859-861.

Halliday, M. A. K. (1978) *Language as Social Semiotics: The social interpretation of language and meaning.* London: Edward Arnold.

Hedegaard, M. & Munk, K. (2019) Play and Life Competencies as Core in Transitions from Kindergarten to School: Tensions between Values in Early Childhood Education. In M. Hedegaard & M. Fleer (Eds) Children's Transitions in Everyday Life and Institutions. London: Bloomsbury Academic.

Kenny, L., Hattersley, C., Molins, B., Buckley, C., Povey, C., & Pellicano, E. (2016) Which terms should be used to describe autism? Perspectives from the UK autism community. *Autism* Vol 20 (4), 442-462.

Malaguzzi, L. (1996). *The Hundred Languages of Children: The Reggio Emilia Approach to Early Childhood Education*. New Jersey: Ablex Publishing Corporation.

McGough, A. (2018) Communication and Language in Schools: New Emphases and New Opportunities for Teaching and Learning. *REACH Journal of Special Needs Education in Ireland.* Vol.31 (1), 2-21.

Nadel, J. and Peze, A. (1993). What makes immediate imitation communicative in toddlers and autistic children? In J. Nadel & L. Camaioni (Eds) (1993) *New perspectives in early development*. 139–156. London: Routledge.

Odom, S. L., Thompson, J. L., Hedges, S., Boyd, B. A., Dykstra, J. R., Duda, M. A. Szidon, K. L., Smith, L. E. and Bord, A. (2015). Technology-Aided Interventions and Instruction for Adolescents with Autism Spectrum Disorder. *Journal of Autism Development Disorder,* 45, 3805-3819

O'Síoráin, C. A. (2018) An Inquiry into the Literacy Practices of Pupils with Autism in Mainstream Primary Settings in the Republic of Ireland. (Unpublished thesis) Dublin: School of Education, Trinity College.

Powell, S. & Jordan, R. (2012) *Autism and Learning: A guide to good practice* (2nd ed). London: Routledge.

Rhea, P. (2008) Interventions to Improve Communication in Autism. *Child and Adolescent Psychiatric Clinic of North America,* 17, 835-856.

Skinner, B. (1957) *Verbal Behaviour.* London: Copley Publishing Group.

Tincani, M. & Zawacki, J. (2012) Evidenced-Based Practices for Communication Skills Acquisition. In E. E. Barton &B. Harn (Eds) Educating Young Children with Autism Spectrum Disorders. London: Sage.

Twomey, M. & Carroll, C. (2018) *Seen and Heard: Exploring participation, engagement and voice for children with disabilities.* Oxford: Peter Lang.

Valentino, L. A. Shillingsburg, M. A. Conine, E. D. & Powell, M. N. (2012). Decreasing Echolalia of Instruction "Say" During Echoic Training Through Use of Cues-Pause-Point Procedure. *Journal of Behavioural Education*, 21 (4), 315-328.

Weisleder, A. & Fernald, A. (2013) Talking to Children Matters: Early language experience strengthens processing and builds vocabulary. *Psychological Science,* 24, 2143-2152

Wetherby, A. M., & Prizant, B. (2005) Enhancing Language and Communication Development in Autism Spectrum Disorders: assessment and intervention guidelines. In D. Zager (Ed.), *Autism Spectrum Disorders: Identification, education and treatment* (3rd ed.). New Jersey: Lawrence Erlbaum Associates.

REACH

PATRONS 2020/2021

Journal of Inclusive Education in Ireland

THE FOLLOWING SCHOOLS AND INSTITUTES WERE PATRONS OF REACH JOURNAL FOR 2018-2020.

Carlow: St Laserian's School, Dublin Road; **Cavan:** Hearing Impaired Unit at Darley NS, Monaghan Road, Cootehill; **Clare:** St Anne's Special School, St Senan's Road, Corrovorrin, Ennis; **Cork:** Cara Junior School, C/o Brothers of Charity Southern Services, Lota, Glanmire; St Mary's School, Waterpark, Carrigaline; School of the Divine Child, Lavanagh Centre, Ballintemple; **Donegal: S**t Bernadette's Special School College Farm Road Letterkenny**; Dublin:** St Joseph's School for Children with Visual Impairment, Gracepark Road, Drumcondra; St Michael's Special School Glenmaroon, Chapelizod; St John of God Special School, Islandbridge; St Paul's Special School, Beaumont Woods; Casa Caitríona Special School Cabra; Phoenix Park Special School Phoenix Park; Saplings Special School Ballyroan Crescent, Rathfarnham; St Michael's House Special School, College Road, Baldoyle; St Michael's House Special School, Ballymun; Stewarts School, Palmerstown; Children's Hospital School, Tallaght Hospital Tallaght; St Canice's School, Finglas; Temple Street Children's Hospital School, Temple Street; INTO Department of Education and Research, INTO Head Office, Parnell Square; Thomas MacDonagh House, Winetavern Street; **Kerry:** Nano Nagle Special National School, Listowel; St Francis Special School, Beaufort; **Offaly:** Offaly School of Special Education, Kilcruttin Business Park, Tullamore; **Roscommon:** St Michael's Special School, Castlerea; **Tipperary:** Scoil Chormaic Special School, Golden Road, Cashed ; St Joseph's Special School, Ferryhouse, Clonmel**; Waterford: S**t Joseph's School for Children with Visual Impairment, Parnell Street; **Westmeath:** St Hilda's Special School, Grace Park Road, Athlone; St Mary's School, South Hill Delvin; **Wicklow:** Newcourt Special School Newcourt Road, Bray.

If you would like to be Patron of REACH Journal please contact REACH editor; reach.editor.iatse@gmail.com

REACH: Journal of Inclusive Education in Ireland, Vol. 34.1 (2021), 42-56.

Dinosaurs in the Classroom: Using the Creative Arts to Engage Young Children with Autism

Autism Spectrum Disorders (ASD) are neurodevelopmental disorders that are characterised by challenges with social communication and restricted, repetitive behaviours and interests (American Psychological Association, 2013). Young children with ASD frequently have impairments in early social communication skills including language and joint attention (Tager-Flusberg, 2000). This paper draws on a longitudinal research project that included in-depth qualitative case studies of young children with ASD transitioning to early education settings. Findings include the importance of nuanced approaches to inclusion for children with ASD, and the recognition that all children, including children who are nonverbal, have a voice.

Drawing from a review of the relevant literature, this article is structured around a discussion of the following themes: the challenges experienced by children with Autism Spectrum Disorders (ASD) participating with peers, the need for bespoke approaches to inclusion drawing on the creative arts and the importance of children's voice and agency when children communicate differently.

Keywords: *Autism Spectrum Disorders, early childhood education, creative research methods, creative arts, engagement, early intervention*

MIRIAM TWOMEY is an assistant professor in education at the School of Education, Trinity College Dublin. CAROL-ANN O'SÍORÁIN is a lecturer in education at the School of Education, Hibernia College. MICHAEL SHEVLIN is a Professor in Inclusion at the School of Education Trinity College Dublin. CONOR MCGUCKIN is an assistant professor at the School of Education, Trinity College Dublin. All the authors are active researchers in the Inclusion in Education and Society (IES) Research Group at the School of Education, Trinity College Dublin.

Corresponding author: *Miriam.twomey@gmail.com*

ORCID iD
Miriam Twomey: https://orcid.org/0000-0002-9537-8297
Michael Shevlin: https://orcid.org/0000-0002-3129-2806
Conor McGuckin: https://orcid.org/0000-0001-5848-2709
Carol-Ann O' Siorain: https://orcid.org/0000-0002-9157-7125

INTRODUCTION

Significant developments in Early Intervention and primary school education provision for children with ASD in the Republic of Ireland have taken place (McCoy, Banks, Frawley, et al., 2014). Policy and legislation reinforce the inclusion of children with special educational needs (SEN) including children with ASD in mainstream educational settings. Considering the increased number of young children identified as having ASD (Maenner et al., 2020) currently estimated to be 1 in 54, and the variability of services, there is a need to develop effective interventions to increase their participation and engagement. As part of a larger doctoral study of the first author, a research project was carried out with Junior and Senior Infant class groups in separate classrooms. This paper explores the experiences of one child with autism aged 5 who transitioned from an Early Intervention Unit to a Senior Infant classroom in a mainstream primary school in the West of Ireland. The Creative Arts were used to help address the challenges of engaging and communicating with children with autism. Augmenting 'talk and draw' interventions (Leitch and Mitchell, 2007), developmental movement programmes, music, and child and hand sized puppets were explored as real and situated artefacts of the children's worlds.

This research enabled children to explore their worlds and deliberate on areas that affected their lives. Alex, a 5-year-old boy with autism and severe social and communication impairments is the focus child of this paper. Alex's bodily expressions and experiences through movement were considered communicative and agentic. The potential value for using the Creative Arts as a means of engaging children with autism is discussed. Implications relating to movement and voice are explored.

CONTEXT

International and national policy adopts a non-negotiable stance on including the voice of the child. Article 12 of The United Nations (UN) Convention on

the Rights of the Child (CRC) (UNCRC, 1989) recognises children as active participants in society with the right to articulate their views on matters that affect their lives. These rights ensure that their views are heard and respected (UNCRC, 1989). Lundy (2007) further proposes that 'children's right to express their views is not dependent on their capacity, it is dependent on their ability to form a view, mature or not' (p. 935). Prioritising children's 'participation' impacts positively on children's identity and confidence, promoting their overall development, autonomy, independence, social competence and resilience (National Council for Curriculum and Assessment (NCCA), 2009). Aistear: The Early Childhood Curriculum Framework (NCCA, 2009, p.2). reminds us 'that the child's ability to communicate is at the very heart of early learning and development'. According to the 'Communicating' theme of Aistear, children's language comprises more than spoken language. It includes art, Braille, dance, drama, music, poetry, pictures, sculpture, signing, and stories (p.34). While most children express themselves verbally and through writing, many continue to speak through body movement and nonverbal expression. Crucially therefore, all children should be facilitated to participate and communicate in inclusive environments, where diversity of communication is embraced. Ensuring all children are viewed as equal participants in early childhood education contributes to the creation of inclusive settings, where children's rights are acknowledged, and children's views valued. In Ireland, realising children's rights is expressly articulated in Better Outcomes, Brighter Futures: The National Policy Framework for Children and Young People 2014-2020 (Department of Children and Youth Affairs (DCYA, 2014). This Framework evidences our vision and obligation to children's rights.

The Challenges for Children with Autism

Children with autism have multi-system impairments (Srinivasan and Bhat, 2013). According to an enactive phenomenological view of autism (De Jaegher, 2013) autism is characterised by different ways of moving and perceiving. Movement has been recognised as a key characteristic of autism as well as a form of intervention. The movement perspective on autism acknowledges movement as a mechanism of sensory input as well as how we regulate movement that our bodies produce in response to environmental stimuli (Torres and Donnellan, 2015). We need to be more attentive to movement as 'cognitive style' (Peterson, Rayner, and Armstrong, 2009) and as a means of communication and voice (Twomey, 2018). The research described in this section considers challenges relating to the sensory motor development of a young boy with autism, as it encourages thinking to forefront a mind body association evident in recent developments in contemporary phenomenology (Fuchs and De Jaegher, 2009, de Jaegher, 2013). Intersubjectivity emerged from infancy research describing the interpersonal

interactions that develop between an infant and caregiver. Intersubjectivity has also been defined as the social activity between people and how they interact. It is concerned with our perceptions of others and our internal models of others' actions. Fuchs and De Jaegher (2009) suggest that intersubjectivity happens when humans enter a process of embodied interaction where they generate meaning together. De Jaegher (2013) proposes an 'enactive' account of autism which starts with the embodiment of an experience and incorporates the social interactions of people with autism. An 'enactive' account brings together the sensorimotor, cognitive, experiential, affective and social aspects, in an effort to bridge together people with autism and their all too often, challenging environment, in an effort to improve their quality of life.

Research suggests that the process of intersubjectivity starts from birth via imitation and mirroring processes that are foundational, initiating a sense of social connectedness and mutual acknowledgement with others (Rochat, Passos-Ferreira, and Salem, 2009). Challenges relating to intersubjectivity and social interaction exist for children with autism who may fail to develop more sophisticated intersubjectivity such as joint attention and complex social engagement with others. These developments prioritise the notion of a 'mind-body' connection which may be more representational, enactive and embodied of the child with differences in sensory expression than a mental representation (Fuchs and De Jaegher 2009, p.466) purported by cognitive theory or theories of mind:

'Movement forms the I that moves before the I that moves forms movement' (Maxine Sheets Johnston, 2011, p. 119).

THE RESEARCH PROJECT

The research project took place over four phases during an 18-month period. Children in the Senior Infant classroom were included in three phases of the study. Children in the Junior Infant classroom were included in phase four of the study. See table no 1. This paper will examine and discuss how Alex was engaged through a creative arts approach along with his peers.

Prior to each session, the researcher encouraged Alex' Special Needs Assistant Julie, to incorporate the Occupational Therapist's recommended sensory modulation and movement programme. This was established to co-regulate Alex physiologically prior to classroom participation. When Alex was regulated Julie included Alex in the group.

Table 1. Phases of Research

Phase 1:	'Facilitated engagement with Julie during Art activity and marla [rest of group talk and draw].	Low engagement rates during talk and draw activity
Phase 2:	'Facilitated engagement with peer mediation during Art activity' – this involved the researcher prompting Alex to respond to the peer(s) he chose to play with [rest of group talk and draw].	Increased engagement responses to peers' initiations and social engagement rates increased
Phase 3:	'Facilitated engagement using puppet imitation' – this involved the researchers conducting 1:1 imitation sessions between Alex and puppet. Followed by inclusion of peers	Moderate engagement rates in 1:1 interaction with puppet. Increased unprompted initiations and responses to peer
Phase 4:	'Facilitated engagement using puppet imitation, peer mediation and inclusion of microphone'	Higher engagement rate in 1:1 and group interaction

Nuanced Approaches to Children's Inclusion

Methods in this research project included qualitative, in-depth, longitudinal case studies which were undertaken with young children with autism, their parents and professionals, through semi-structured interviews (n-83) over a period of eighteen months. Children with and without the label of autism were participants in the research project. Recognising all children as agentic, their views and interests were prioritised. As Tisdall (2018) suggests, children were considered as active advisers and consultants during the course of the research. A range of research tools drawing on the creative arts was developed to facilitate children's engagement and responses. The creative arts were considered critical as a methodological tenet in encouraging children's engagement and ascertaining their views. Hand and child size puppets, 'talk and draw', 'marla' (Irish for plasticine and play-dough), and developmental movement programmes were incorporated in the research as expressive formats, and adapted to children's strengths and interests during the phases of the research. Specific application of these methodologies will be the focus of the following sections of the paper.

Check Point for Reflection: Consider this Scenario

An Introduction to Alex

At the time of the study Alex, a 5-year-old boy with autism and severe social and communication impairments lived at home with his parents in the West of Ireland.

Prior to his diagnosis, Alex had brief, negative experiences attending a local preschool and mainstream primary school and had been withdrawn from both. Following the diagnosis, Alex attended an Early Intervention Unit for children with autism also known as a special class. During phase 2 of the research project, Alex transitioned from this Early Intervention Unit to the adjacent mainstream school which shared the same campus. His transition was not without difficulties but support from the local Multi-Disciplinary Early Intervention Team facilitated mainstream teachers' and classroom personnel's knowledge and understanding of how to support Alex appropriately. Initially, as part of the Unit's Transition Programme, '*First Steps'*, Alex attended the mainstream Senior Infant classroom for brief periods of Maths, PE, Art and English. Alex was supported by Julie, his Special Needs Assistant (SNA). The researcher was concerned with Alex's social engagement (particularly social engagement with other children). Conceptual resources were drawn from Stern (1985, 2010), Trevarthen (1998), De Jaegher (2013) and Rochat, Passos-Ferreira and Salem, (2009) and the focus was on how to support Alex's primary intersubjectivity and encourage secondary and tertiary intersubjectivity.

The following section is a sample of a field note describing early meetings between the researcher and Alex.

Alex

> *From the day of our first meeting, Alex appeared to have different ways of knowing and interacting with the world around him. Alex avoided eye contact and did not socially reference others. He appeared to be predominantly object-related. Observation focused on kinesics (body language and orientation), proximity to others, features of emerging communication and haptic (touch) interaction. Alex did not display referential communication, which frequently accompanies symbolic development. He failed to show communicative gestures that might become the sign of something else (e.g., he didn't point or share with others). His level of communication had not transcended the emotional co-regulation and affective attunement that characterises early face-to-face, proto-conversational exchanges (i.e. primary inter-subjectivity) (Rochat, Passos-Ferreira and Salem, 2009), however he showed early precocious ability with Maths and literacy. He did not display 'a sense of interesting otherness of the world… (Alvarez and Reid, 2013, p.52). His ease in a world of inanimate objects was challenging in a multi-grade classroom of approx. thirty children. At the beginning of his transition to the mainstream classroom, during phase 1, Alex for the most part showed distress and discomfort. He seemed unaware of the children.*

Why we need to consider bodies and embodiment

Julie (SNA) attributed Alex's behaviour differences as constitutive of agency and desire. Understanding Alex's body narrative was key to distinguishing a mind body dualism but also addressing his need for embodiment as a primary modality of learning and being. Embodiment is defined in this article as the simultaneous intentional and mindful engagement of the self with the internal and external environments (Munro, 2018). This article proposes the concept of embodied learning as a pedagogy suitable for children with autism, to encourage the connection of body mind activities at different levels of intersubjectivity.

Julie was adept in her classroom adaptations to accommodate Alex's sensory processing and integration difficulties, addressing the challenge of developmental difference with energy and confidence, drawing on Intensive Interaction (Nind and Hewett, 1994; 2001) and Floor time techniques (Greenspan and Wieder, 1998) as recommended by the first researcher. Under the Occupational Therapist's advisement, Julie created a sensory environment through the use of sensory toys, a therapeutic seat support as well as indoor and outdoor therapeutic equipment (Ayres, 1972). She was aware, however, that in the absence of sustained professional input, these initial sensory integration challenges could lead to further developmental obstacles in creating a meaningful social connection between Alex and other children. Nonetheless, Julie encouraged peers from the school's 'Buddy group' to incorporate the 'sensory diet' recommended by the OT into the day to day life of the classroom. The class teacher engaged directly with the OT and incorporated his strategies; allowing time for sensory breaks and 'sensory snacks' each day. The researcher suggested that when Julie felt Alex's sensory needs were addressed, she could slowly introduce one peer into early socially focussed games in the school yard and at lunch break. Julie also encouraged Alex's awareness of self through music and body awareness activities. The researcher advised Julie that this provided an opportunity for peer integration.

Alex particularly craved bodily sensations; his awareness of body position appeared disconnected. Movement in space and time was therapeutic for him. Jumping on a trampoline served as both reward and stimulus for learning. Differences in Alex's proprioceptive and vestibular systems could account for this need for movement. His proprioceptive system seemed disengaged; he was unaware of where his body was positioned in space and time. He did not appear to receive reliable information from his joints or muscles. His vestibular system did not account for unpredictable movement. Because information from these systems was poorly integrated, Alex experienced difficulties with bodily

awareness, attention, sequencing and motor planning (Miller and Fuller, 2006). He displayed tactile defensiveness; poor body awareness and coordination and experienced fear when challenged by sensory motor activities. Given that the education environment presents many sensorial demands on a child, sensory integration techniques were added to Alex's daily programme and his 'sensory snacks', were incorporated into the curriculum by his teacher, Daniel. On the OT's advice, Daniel incorporated these techniques into his teaching and prioritised them in Alex's IEP. During the researcher's early visits, Alex responded well to the body awareness programme and the sensory diet recommended by the OT which was incorporated into Alex's class routine. He had a calm demeanour entering the classroom, he was more physiologically and emotionally regulated as well as becoming more responsive to Julie's suggestions.

Checkpoint for Reflection

The importance of the skilled and competent adult when engaging with young children with autism is evident when we consider Julie's ability to attune to Alex. Julie engaged in naturalistic interactions, adapting and structuring teacher instructions visually in her response to Alex's communication needs. If Alex was overwhelmed by sensory stimuli, she supported him by using sensory toys and the sensory diet recommended by the Early Intervention team, particularly the OT. She co-regulated him and used simple gesturing, Irish Sign Language, visual supports, Picture Exchange Communication System (PECS) by Bondy and Frost, (1994; 2001) to calm and guide his actions. She engaged affectively with him; gently acknowledging and validating his emotions, reducing her language and demonstrating responsiveness in an attempt to co-regulate him. When self-regulation or co-regulation didn't occur, Alex became dysregulated. Sensory strategies helped Alex's ability to self-regulate but sometimes he required the support from an adult (Belford, 2012; Brown, 2015; Fogel, and Garvey, 2007). This was achieved through his sensory diet; individualised to meet his needs. Julie also focused on stabilising primary intersubjectivity as an innate emotional foundation (Schore, 2001); what was now mediated would eventually be internalised. She used her body as an instrument of affective education; within a context of facial expressions, posture, tone of voice, rhythm and tempo of movement and action, she modelled calm, responsive and mindful techniques, reducing stimuli and supporting Alex's sensory integration needs. She continued to address Alex's sensory dysregulation (DeGangi et al, 2000) while simulating the neurobiology of a secure attachment, providing psychobiological regulation and preparing him for change and unpredictability in his environment. The following section will generalise some of this learning to the mainstream inclusive environments for other children with autism.

What do we know about how teachers include children with Autism in the mainstream classroom?

Including a child with autism requires that teachers are knowledgeable about how to support the child's individual needs, but also that they are knowledgeable of inclusive pedagogies and adept at inclusive classroom strategies supporting all children in the group.

During one of the early visits to Alex's large classroom, it was noted by the researcher that while Alex's class teacher conducted a lively classroom debate; peers didn't include Alex or encourage him to participate. They didn't smile at him, nudge him, or link back with him. Their attempts at social referencing had previously been unsuccessful. They were unaware of his body position or gaze orientation, unable to draw him in. Alex's kinesic signals of remoteness were unattended to and resulted in detachment, exacerbating his status of social isolate.

Checkpoint: Consider this scenario

Meanwhile, Alex's transition to the younger Junior Infant Art class was transformational. Alex spent time with both same age peers in the Senior Infant classroom but was frequently a visitor to the Junior Infant class group during the transition period. When Alex entered the Junior classroom, he was a child amongst children. There were no social negotiations needed, Alex walked independently towards his seat, embodying a more confident and participatory role, where less attention was afforded to the structured workings of the curriculum and more of an emphasis on play and creativity. In this classroom Alex had more subjective agency reflecting a rights-based approach to classroom attendance and engagement; his diagnosis clearly not a marker of difference. The Junior Infant classroom teacher welcomed Alex immediately gesturing to him towards the Art corner, as he entered the classroom. As a teacher, she excelled at Art but also incorporated inclusion as an artistic and creative endeavour. This checkpoint elicits several questions. Did younger peers engage with Alex in less complex social interaction? Was their movement and playfulness the vehicle that Alex needed to participate more easily? Was the teacher less focused on a deficit orientation and more facilitating of the Creative Arts? It appeared that the children occupied the same space as Alex, as co-creators and designers of an inclusive art experience, evidencing less emphasis on complex social nuances.

Field Notes

The following section is a sample of a field note describing later observations of the intervention including Alex.

During an intervention using child and hand-size puppets, Alex appeared more engaged and more interested in joining the group activity during later phases of the research. The puppets entered children's play as casual observers, occasionally commenting and offering opinions. More frequently puppets asked questions and children were invited to give their view on topics that were important to them. Alex found social interaction generally difficult, but he showed interest in the puppet when the puppet began to imitate him.

Following the puppet intervention, on entering the Junior Infant classroom, Alex and a peer joined the other children who were working with clay (a welcome sensory component). Alex's expression through this medium was excellently facilitated by a confident and competent teacher – Miss Brown. Using simple, specific directions, the teacher modelled the activity and included a peer (Rosie, a bubbly 5-year-old) whenever possible. Miss Brown focused on the process not the product while gently reinforcing his efforts. Alex gained confidence and frequently glanced at Rosie. Alex's beautiful creation saw dinosaurs coming to life in his hands. Alex, who was predominantly non-verbal, mimicked these animals talking to each other. His vocalisations were heard by the other children who were keen to observe his dinosaurs and the interaction between them. Alex worked slowly and methodically without inhibition. His demeanour was happy and free. He responded positively to Rosie's gentle verbal direction, and while some sensory integration issues relating to classroom noise were apparent; he displayed excellent fine motor ability to manipulate and form. His engagement with the clay dominated, however Alex also showed evidence of cooperative play; briefly socially referencing Rosie, when she pointed to the clay dinosaurs in Alex's hand and called the teacher to look at them. Alex used dinosaurs to enter other children's worlds, and attempted to initiate some level of role play between the dinosaurs while adopting the social nuances of the group.

During each research visit, the researcher provided a creative arts toolbox to encourage Alex's engagement. Alex's levels of social engagement increased during the research; he became a more competent peer amongst children. The phases of research identified with phases of Alex's engagement and levels of intersubjectivity. Phase 1 indicated primary intersubjectivity with no level of engagement with peers. Alex only engaged with the researcher or teacher or an object. He was mostly involved in parallel play. Phases 2 and 3 were concerned with elements of secondary intersubjectivity, where Alex showed the beginnings of joint attention with reference to objects and became engaged in triadic intentional communication with others about objects. Phase 4 was associated with

tertiary intersubjectivity. Alex participated in joint pretence with Junior Infant children; displaying the ability to generate meta representations through pretence, where dinosaurs represented actual real ones and Alex jointly engaged in social connectedness through communicative meaning making with other children.

Table 2. Phases of Research and Levels of Intersubjectivity

Child	Alex	Level of intersubjectivity
Phase 1	Objects of Reference	Primary Intersubjectivity
Phase 2	Objects of Reference/PECS/ Irish Sign Language, Music and Movement/Puppets	Primary Intersubjectivity and Secondary Intersubjectivity
Phase 3	Objects of Reference/ PECS/ Irish Sign Language Music and Movement/ Puppets	Primary Intersubjectivity and Secondary Intersubjectivity
Phase 4	Objects of Reference/ PECS/ Music and Movement/ Puppets	Secondary Intersubjectivity and tertiary intersubjectivity

IN CONCLUSION

Lessons learned from children's experiences include the importance of engagement and the significant role of the creative arts when working with young children with autism. In this research children's views on being included, belonging and playing were frequently sought by puppets during the phases of the research. While the class group responded optimally to puppet interventions, for one child, the use of playdoh was more significant. The use of creative methods may inform practitioners, parents and researchers about the importance of engagement.

For children with disabilities a deeper concern lies in the absence of audible or vocally expressed voice; how do children make their needs known? This research project affirms the role of enactive phenomenology (De Jaegher, 2013), and intersubjectivity (Fuchs and De Jaegher, 2009) in relation to nuanced presentations of voice. Children may respond to the arts when they encounter difficulties with spoken language. The language children have for their bodies can adequately explain or give voice to thoughts, feelings and intentions. It is important that parents, caregivers and teachers understand that language and communication systems that are represented by the body may be misconstrued if children remain emotionally and sensorially dysregulated and are not engaged. The challenge is to

facilitate regulation prior to engagement and recognise the presence of children's pre-verbal 'intentional' behaviour.

This reaffirms the interconnections between mind and body. For children who may have difficulty with spoken voice, more specific research needs to investigate phenomenological relationships between how they experience the world and how they express themselves. Using the creative arts and movement may encourage engagement at different levels of intersubjectivity. If the movement of a child with autism embodies emotions, needs and desires, parents, teachers and caregivers need to know it.

REFERENCES

Alvarez, A., & Reid, S. (Eds.). (2013). *Autism and personality: Findings from the Tavistock Autism Workshop*. Routledge. U.K.

Ayres, A.J. (1972). *Improving academic scores through sensory integration*. Journal of Learning Disabilities, 5, pp. 338-343.

Belford, D. (2012). *Co-Regulation and Self-Regulation*, Center for Development and Disability at the University of New Mexico A University Center of Excellence in Developmental Disabilities Education, Research and Service.

Bondy, A. S. & Frost, L. A. (1994). The Picture Exchange Communication System. Focus on Autistic Behavior, 9(3), pp. 1–19. https://doi.org/10.1177/108835769400900301.

Brown, D. (2015). *Co-regulation in Floortime: How to interact with a Distressed Child, DIR Theory, Affect Autism*. Video Blog. https://affectautism.com/2015/11/28/co-regulation/ (Accessed Nov 30th, 2020).

DeGangi, G. A., Breinbauer, C., Doussard-Roosevelt, J., Porges, S. & Greenspan, S.I. *Prediction of childhood problems at three years in children experiencing disorders of regulation during infancy*. Infant Mental Health Journal. 2000; 21(3), pp. 156–175.

De Jaegher, H. (2013). *Embodiment and sense-making in autism*. Frontiers in Integrative Neuroscience, 7, 15. DOI: 10.3389/fnint.2013.00015

Department of Children and Youth Affairs. (2014). *Better Outcomes, Brighter Futures: The National Policy Framework for Children and Young People*

2014-2020, Dublin: Department of Children and Youth Affairs, https://www.dcya.gov.ie/documents/cypp_framework/BetterOutcomesBetterFutureReport.pdf, accessed 12 September 2020.

Fogel, A. & Garvey, A. (2007). *Alive communications*. Infant Behavior & Development, 30, pp. 251-257.

Fuchs, T. & De Jaegher, H. (2009). *Enactive intersubjectivity: Participatory sense-making and mutual incorporation*. Phenomenology and the Cognitive Sciences 8 (4), pp.465-486

Greenspan, S.I. & Wieder, S. (1998). *The child with special needs: encouraging intellectual and emotional growth*. Reading, Massachusetts, U.S.: Addison-Wesley Publishing Company.

Leitch, R. & Mitchell, S. (2007). *Caged birds and cloning machines: how student imagery 'speaks' to us about cultures of schooling and student participation*. Improving Schools. 10(1), pp.53-71. doi:10.1177/1365480207073722

Lundy, L. (2007). '*Voice' is not enough: conceptualising Article 12 of the United Nations Convention on the Rights of the Child*. British Educational Research Journal, 33(6), pp. 927-942. doi:10.1080/01411920701657033

Maenner, M. J., Shaw, K. A., Baio, J., EdS1, Washington, A., Patrick, M., DiRienzo, M., Christensen, D. L., Wiggins, L. D., Pettygrove, S., Andrews, J. G., Lopez, M., Hudson, A., Baroud, T., Schwenk, Y., White, T., Rosenberg, C. R., Lee, L. C., Harrington, R. A., Huston, M., … Dietz, P. M. (2020). *Prevalence of autism spectrum disorder among children aged 8 years - Autism and Developmental Disabilities Monitoring Network, 11 sites, United States, 2016. Morbidity and mortality weekly report*. Surveillance summaries (Washington, D.C.: 2002), 69(4), pp. 1–12. https://doi.org/10.15585/mmwr.ss6904a1

McCoy, S., Banks, J., Frawley, D., Watson, D., Shevlin, M., & Smyth, F. (2014). *Understanding Special Class Provision in Ireland: Phase1, Findings from a National Survey of Schools* (16). Trim/Dublin: National Council for Special Education/The Economic and Social Research Institute.

Miller, L. J. & Fuller, D. A. (2006). *Sensational kids: Hope and help for children with sensory processing disorder* (SPD). New York: G.P. Putnam's Sons.

Munro, M. (2018). *Principles for embodied learning approaches*. South African Theatre Journal, 31:1, 5-14, DOI: 10.1080/10137548.2017.1404435

National Council for Curriculum and Assessment. (2009). *Aistear: The Early Childhood Curriculum Framework. Dublin*. National Council for Curriculum and Assessment, https://www.ncca.ie/en/early-childhood/aistear, (accessed 1st October 2020).

Nind, M. & Hewett, D. (1994). *Access to Communication.* London. David Fulton.

Nind, M. & Hewett, D. (2001). *A Practical Guide to Intensive Interaction*. Kidderminster: BILD publications.

O'Síoráin, C. A. (2018). *An Inquiry into the Literacy Practices of Pupils with Autism in Mainstream Primary Settings in the Republic of Ireland*. (Unpublished thesis). Trinity College Dublin.

Peterson, E. R., Rayner, S. G. & Armstrong, S. J. (2009). *Herding Cats: In search of a definition of cognitive styles and learning styles*. ELSEIN Newsletter. An International Forum. Winter 2008-2009.

Rochat, P., Passos-Ferreira, C. & Salem, P. (2009). *Three Levels of Intersubjectivity in Early Development*. In: Enacting Intersubjectivity. Paving the way for a dialogue between cognitive science, social cognition and neuroscience. Como: da Larioprint, pp. 173-190.

Schore, A. N. (2001). *Effects of a secure attachment relationship on right brain development, affect regulation, and infant mental health*. Infant Mental Health Journal, 22, pp. 7-66.

Sheets Johnstone, M. (2011). *The Primacy of Movement*. Netherlands. John Benjamins Publishing. Company.

Shiel, G., Cregan, Á., McGough, A. & Archer, P. (2012. *Oral language in early childhood and primary education (3-8 years)* Dublin: NCCA.

Srinivasan, S. M. & Bhat, A. N. (2013). *A review of "music and movement" therapies for children with autism: Embodied interventions for multisystem development*. Frontiers in Integrative Neuroscience, 7, Article 22.

Stern, D. N. (1985). *The interpersonal world of the infant: a view from psychoanalysis and developmental psychology*. New York: Basic Books.

Stern, D. N. (2010). *Forms of vitality: Exploring dynamic experience in psychology, the arts, psychotherapy, and development*. Oxford University Press.

Tager-Flusberg, H. (2000). *Language and understanding minds: Connections in autism*. In S. Baron-Cohen, H., Tager-Flusberg, & D. J. Cohen (Eds.), Understanding other minds: Perspectives from developmental cognitive neuroscience (pp. 124–149). Oxford University Press.

Tisdall, E. K. M. (2018). *Applying human rights to children's participation in research*. In M. Twomey & C. Carroll (Eds.), Seen and Heard: Participation, Engagement and Voice for Children with Disabilities. UK: Peter Lang.

Torres, E. B. & Donnellan A. M. (2015). *Editorial for research topic Autism: the movement perspective*. Frontiers in Integrative Neuroscience. 9, 1.

Trevarthen, C. (1979). *Communication and cooperation in early infancy: A description of primary intersubjectivity*. In: M. Bullowa (ed.) Before speech. Cambridge: Cambridge University Press, pp. 321-348.

Trevarthen, C. & Delafield-Butt, J. (2013). *Autism as a developmental disorder in intentional movement and affective engagement*. Frontiers in Integrative Neuroscience, vol 7, 49.

Twomey, M. (2018). *Children speak through their bodies* in Twomey, M. & Carroll, C. (Eds.) (2018). Seen and Heard: Participation, Engagement and Voice for Children with Disabilities. UK: Peter Lang.

United Nations. (1989). *United Nations Convention on the Rights of the Child*. Geneva, Switzerland: United Nations.

IRISH ASSOCIATION OF TEACHERS IN SPECIAL EDUCATION

Central Executive Committee Members 2019/2020

President	Muriel Weekes	Scoil Chiarain, Donnycarney, Dublin 5
Honorary Secretary	Aidín Ní Mhaonaigh	St. Mary's School for Deaf Girls, Cabra, Dublin 7
Honorary Treasurer	Jerry Pierce	Central Remedial Clinic School, Clontarf, Dublin 3
Membership Secretary	Aisling Hale	The Children's House Montessori Primary School, Stillorgan, Co. Dublin
REACH Journal Administrator	Jean Loy	St. Joseph's Special School, Tallaght, Dublin 24
Committee	Colin McElroy	Ballyboughal N.S. Ballyboughal, Co. Dublin
	Grace Kelly	Dublin 7 Educate Together NS,, Lower Grangegorman, Dublin 7
	Jessica Hinksman	St. Michael's House, Ballyboughal N.S. Baldoyle, Co. Dublin

REACH
JOURNAL OF INCLUSIVE EDUCATION IN IRELAND

CONTENTS VOL. 34. 1 2021

Journal of the Irish Association of Teachers in Special Education