AutismCRC

Australian Autism Educational Needs Analysis – What are the needs of schools, parents and students on the autism spectrum?

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Terminology and abbreviations

Because many people on the spectrum reject the use of the term 'disorder' to describe their experience of autism, the authors of this report have chosen to use the terminology 'the autism spectrum', 'students on the autism spectrum' and 'students on the spectrum' when referring to the conditions described in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) as 'autism spectrum disorder'. However, the terminology used by the survey participants around autism spectrum disorder has not been altered in the qualitative data sections and is their chosen wording.

The Cooperative Research Centre for Living with Autism (Autism CRC)

The Cooperative Research Centre for Living with Autism (Autism CRC) is the world's first national, cooperative research effort focused on autism. Taking a whole-of-life approach to autism focusing on diagnosis, education and adult life, Autism CRC researchers are working with end-users to provide evidence-based outcomes which can be translated into practical solutions for governments, service providers, education and health professionals, families and people on the autism spectrum.

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Executive Summary

Purpose of this Study

The Autism CRC Australian Autism Educational Needs Analysis used a nationwide survey to obtain information about the educational needs of students on the autism spectrum (5-18 years) from four key stakeholder groups including educators, specialists, parents, and students on the spectrum (11-18 years).

Aim of the Study

The aim of the survey was for key participants to identify, from their perspective, the educational needs of students on the spectrum (5-18 years) within school settings.

Study Description

Utilising a mixed methods approach, the needs analysis obtained information from the key stakeholder groups regarding the range of educational of students on the spectrum (5-18 years). The Australia wide online survey allowed for the collection of a range of quantitative and qualitative data with a series of closed and open ended questions. The survey was then followed up with the collection of more in-depth qualitative data from interviews with individuals within the various stakeholder groups.

Key objectives of the project were:

1. To gain a comprehensive profile of the educational support needs of students on the spectrum.
2. To gain a comprehensive profile of the more individualised support needs of students on the spectrum with high impact social, emotional and behavioural needs.
3. To identify the needs of educators to effectively manage and support students on the spectrum within educational settings and maintain a strong sense of school connectedness.
4. To identify the needs of educators to effectively manage and support students on the spectrum with complex and challenging needs within educational contexts and promote school connectedness.
5. To describe the goals identified by parents, students and educators that form the basis of intervention and support of students on the spectrum with complex needs.

6. To identify a series of knowledge translation processes and strategies that could be utilised to effectively support students on the spectrum including those with complex needs. These may include: information gathering; interventions; models of practice; and technology platforms and tools.

Ultimately, the findings from this project will guide the development of models of support for students on the spectrum in educational settings and specifically those with complex needs. In addition, the findings will inform professional development as well as educational and support practices for people working with or supporting students on the spectrum within school or educational contexts. Moreover, the findings will also be used to inform future research projects and will ensure that planning in future projects is consistent with consumer needs. Overall, these findings will reinforce the implementation of strategies and ultimately will ensure maximum retention, participation and engagement of students on the spectrum including those with complex needs in educational settings.

Summary of Findings

Nationwide, in total there were 1,468 respondents who participated in the survey. Survey participants came from every state of Australia and included:

- 248 educators;
- 179 specialists;
- 107 students on the spectrum (aged 11-18 years); and
- 934 parents (of a child on the spectrum aged 5-18 years of age).

A focus of the surveys was to obtain participants' views of the educational and school based needs of school aged students on the spectrum. The following section outlines the key findings of the research and identifies some of the needs of school aged students on the spectrum which influence their learning, participation and engagement in educational settings.

1. Needs of students on the spectrum

The educator, specialist and parent participants were asked to rate the characteristics of students on the spectrum that have the most impact on learning and require the most support, assistance, adjustments or accommodations in educational settings. All three participant groups identified the social emotional needs of students on the spectrum as having the most impact and required the highest levels of support, assistance, adjustment or accommodations in educational settings. This was followed by the behavioural, communication and sensory needs. The academic and learning

needs of students on the spectrum rated as having the least impact of all needs and required the lowest levels of support, assistance, adjustment or accommodation.

Table 1: Needs of Students on the Spectrum Rated as Having the Most Impact and Requiring Highest Levels of Support

Rating from highest to lowest	Needs of students on the spectrum rated as having the most impact and requiring highest levels of support
1	Social/emotional
2	Behavioural
3	Communication
4	Sensory
5	Academic/learning

2. Sensory needs of students on the spectrum

There was strong agreement across educators, specialists and parents around the sensory experiences which had the greatest impact on the students' ability to participate, learn and perform in the school environment. These sensory experiences were identified as impacting on the student on the spectrum to the extent that it interfered with their learning in classrooms. Overall, the highest rating sensory issue which was identified as having the most impact in the school environment was noise. This was followed by sensory experiences related to touch as well as the ability to stay still.

3. Behavioural and mental health needs of students on the spectrum

The survey provided educators, specialists and parents with the opportunity to provide their views on a range of behavioural and mental health needs of students on the spectrum in educational environments.

3.1 Positive approach to behaviour support

Educators and specialists were asked if the schools they worked in had a positive approach to behaviour support. On average, educators agreed the schools they worked in did, while specialists only slightly agreed that the schools they supported had a positive approach to behaviour support. Similar to specialist responses, parents on average only slightly agreed that the school their child attended had a positive approach to behaviour support.

Additionally, educators, specialists and parents indicated the factors which had the most impact on the capacity of students on the spectrum to participate in school. The highest rated factors included dealing with anxiety and activities that required executive function skills such as attention to task, organising themselves, their belongings and their thoughts.

3.2 Impact of comorbid conditions on support, assistance, adjustments and accommodations for students on the spectrum

In the survey, participants were asked what comorbid conditions had the most impact on the support, assistance, adjustments and accommodations that were required for students on the spectrum. On average, educators and specialists indicated the comorbid condition which had the most impact was anxiety disorder, while parents ranked learning difficulties first followed by anxiety disorder second. Other conditions amongst the top five were learning difficulties, auditory processing disorder, attention deficit/hyperactivity disorder and language disorder.

Parents also included intellectual impairment in their top five ranked conditions

Table 2: Comorbid Conditions that had the Most Impact on the Support, Assistance, Adjustments and Accommodations that were Required for Students on the Spectrum

Rating from highest to lowest	Needs of students on the spectrum rated as having the most impact and requiring highest levels of support
1	Anxiety disorder
2	Learning difficulties
3	Auditory processing disorder
4	Attention deficit/hyperactivity disorder
5	Language disorder
6	Intellectual impairment

3.3 Possible barriers to supporting the more challenging and complex needs of students on the spectrum

Educators, specialists and parents all felt lack of funding was the biggest barrier to supporting the more challenging and complex needs of students on the spectrum. Other key barriers identified included:

- lack of time;
- lack of suitable education and training; and
- lack of specialist support.

4. Transition and students on the spectrum

Transitions take up 25% of anyone's day and have been identified as something requiring additional support for students on the spectrum. Support for transitions is therefore an important

element in successfully meeting the educational needs of these students. When educators, specialists and parents were asked if the school/s they were involved in had additional support in place for students on the spectrum to enable them to navigate transitions, a large majority of educators (80.1%) and specialists (70.2%) indicated they did. Fewer parents (56.6%) indicated the school their child attended had additional support in place for transitions. Additionally, when asked to indicate types of transition supports in place, very low rates of support (less than 12%) were indicated across all examples provided.

5. School connectedness

Over the past decade, educational and public health researchers have recognised the importance of social and psychological connectedness to school as a protective and promotive factor for all youth (Centers for Disease Control and Prevention (CDC), 2009; Griffiths, Sharkey, & Furlong, 2009; McNeely, Nonnemaker, & Blum, 2002; Resnick et al., 1997). In addition, school connectedness is influenced by educators' and parents' perceptions of school connectedness to the school environment. School connectedness has been defined by Goodenow (1993) as "the extent to which students feel personally accepted, respected, included and supported by others in the school social environment" (p. 80).

Overall, educators and specialists felt some connection to the organisations they worked with, with specialists rating their connection lower than that of educators. In comparison, parents of students on the spectrum rated their child's connection with the school as low. Overall, ratings from the students themselves were the lowest, indicating low levels of school connectedness amongst students on the spectrum.

6. Technology and students on the spectrum

The use of technology in education, and particularly in relation to supporting students with special needs and specifically students on the spectrum, is a rapidly developing field. As part of the needs analysis, technology and its use in meeting the needs of students on the spectrum was investigated.

6.1 Technology and its role in supporting students on the spectrum

When asked to indicate what areas of learning could be effectively supported using technology, there was a strong correlation across all three participant groups. All three participant groups rated academic and learning needs as the area that could be most effectively supported by technology. This was followed by communication needs and, for the parents and educators, social emotional

needs. In comparison, specialists rated transition needs as slightly higher than social emotional in relation to technology support.

Table 3: Technology and Students on the Spectrum

Rating from highest to lowest	Needs of students on the spectrum rated as having the most impact and requiring highest levels of support
1	Academic/learning
2	Communication
3	Social/emotional
4	Transition
5	Behavioural
6	Sensory

When participants were asked to describe how they used technology to support the needs of students on the spectrum, many shared their views on technology and how they used technology to support the different learning needs of students on the spectrum. Technology was commonly used to support communication, writing, behaviour, organisational skills and transition needs. Some comments also highlighted that technology needs to be supervised and integrated with other approaches, and staff require adequate training in how technology can be used to support the needs of students on the spectrum.

6.2 Commonly implemented technology supports

Participants were asked to indicate what technology supports they most commonly implemented to support students on the spectrum. All three participant groups unanimously agreed that the most common technology support was using iPads or tablets. Other commonly used technology supports included:

- smart board technology;
- laptops;
- desktop computers;
- computer games/software; and
- assistive technology.

7. The perspectives of students on the spectrum of their educational needs

Listening to and reflecting on the personal experiences of students on the spectrum is critically important to developing more inclusive approaches to their education and more effectively

supporting their educational needs. As a result, a key stakeholder group involved in the needs analysis research project was students on the spectrum aged 11-18 years. The students were asked a range of questions about their educational needs and completed a range of wellbeing measures.

7.1 Students' perceptions of the level of challenge of activities experienced at school

A key question that was asked of students was to indicate how hard or easy they felt a range of different things were for them to do. On average, the top 10 most difficult activities students experienced at schools included:

1. planning for assignments;
2. working as part of a group;
3. handwriting and being neat;
4. coping with change;
5. coping with bullying or teasing;
6. the speed at which they completed handwriting;
7. copying information from the board;
8. doing homework;
9. staying calm when other kids annoyed them; and
10. staying calm when the classroom is very noisy.

Overall, the executive function, social and emotional and fine motor challenges students experienced at school rated highly as difficulties.

7.2 Students' perceptions of helpful support options

When students were asked to identify what things they thought would help them at school, being able to use technology to support their educational needs in a variety of ways (e.g., to type or help with school work) was one of the most significant support options identified. In addition, being able to take a break and having time away from others were also on average rated highly as support options. Other high rating support options included:

1. being reminded of pending changes;
2. getting copies of things teachers wrote on the board;
3. using special interests to do projects;
4. help with organising themselves;
5. receiving rewards for jobs well done;
6. a quiet space to do assessment; and

7. 1:1 help from an adult.

7.3 Student wellbeing

Information obtained from students from the Strengths and Difficulties questionnaire (Goodman, 1997) suggested approximately 56% of students reported clinically significant difficulties. Three areas rated as 'substantial risk' these were emotional symptoms, hyperactivity and peer problems. Emotional problem subscale items relate to psychosomatic issues of low mood, anxiety, fears and headaches. Hyperactivity subscale items relate to restlessness, fidgeting, getting distracted, thinking before acting, and attention. Peer problem subscale items relate to a preference for being alone or with adults and issues with being bullied and not being liked by other children. The majority of participants reported average conduct problems (e.g., losing temper, lying, stealing, fighting) and prosocial behavior (e.g., considerate of other's feelings, shares with other children, helpful to someone who is hurt, kind). In comparison, information from the students' completion of the Spence anxiety scale (Spence, 1998) highlighted that overall, participants reported moderate levels of social phobia and generalized anxiety. Participants reported low levels of separation anxiety, obsessive compulsive behaviours (repetitive actions such as washing hands), panic/agoraphobia, physical injury fears and total anxiety. Additional information from the Children's Depression Inventory (Kovacs, 2010) suggested overall participants reported low levels of negative mood, interpersonal problems, ineffectiveness at undertaking school work, anhedonia (inability to experience pleasure) and negative self-esteem. Moreover, student participants generally reported moderate levels of depression.

8. Students and technology use

As part of the survey, students were asked to indicate how frequently they used a range of different technologies in both the home and school environment. The most common technology used across both settings was a laptop. At school, students indicated on average they used laptops 3-4 days per week and in the home setting between 4-5 days per week.

9. Preferred mode of delivery of future professional development for educators and specialists

The top five preferred modes of delivery for professional development of educators and specialists included:

- face-to-face professional development from a professional organisation;
- observation of others' practice (real life);

- face-to-face seminars;
- professional support methods (e.g., coaching); and
- observation of others' practice (online);

Educators and specialists also wanted services and professional learning that addressed all the specific needs of their child on the spectrum (e.g., communication, social skills, learning, sensory issues, behaviour and transitions).

10. Teleconsultation approaches to supporting the needs of students on the spectrum

Teleconsultation uses a human/technology interface to assist to cater to the needs of a targeted population (e.g., provide consultations online with a specialist or multidisciplinary team). While teleconsultation has not been used widely in education, in recent years, research has been conducted in some countries using a teleconsult model to broaden access to consultation to specialist services for students on the spectrum. Initial findings suggest it is particularly useful, especially in rural and remote areas or areas where there is a lack of available services.

10.1 Participants' perceptions of a teleconsultation approach

Educators and specialists agreed that a teleconsultation approach could:

1. reduce travel time and costs for additional support;
2. improve access and support to services;
3. improve school based access to specialist support and services; and
4. increase liaison and collaboration between specialist support and school based staff.

IMPLICATIONS FOR FUTURE PRACTICE

The needs identified by stakeholders in this research can also inform future practice. Specifically, the needs analysis information will be used to identify and develop a comprehensive profile of the:

- educational support needs of students on the spectrum;
- needs of educators, professionals and parents to effectively manage and support students on the spectrum; and
- strategies and models of service delivery required to support students on the spectrum.

The results can also be used to inform professional development and learning for a range of stakeholders and will include consideration of the following:

- professional learning needs of different stakeholder groups;
- most suitable mode of delivery of professional development;
- barriers to professional learning; and
- state specific, regional or specific stakeholder professional development needs.

In addition, the needs analysis data highlights a number of identified learning needs and offers some useful insights on how to best support students on the spectrum in the following areas:

- academic and learning;
- behavioural;
- sensory;
- communication;
- transition;
- school connectedness;
- student wellbeing; and
- technology.

TEN KEY RECOMMENDATIONS

The following key recommendations for future practice arise from the findings of the needs analysis:

1. Educational settings should support the social emotional wellbeing of students on the spectrum, as an essential element of programming. This has been widely recognised as a protective factor for wellbeing and mental health, as well as a key to educational success.

2. Positive behaviour support is vital.

3. Flexible and individually tailored educational approach to programming and support for students on the spectrum is critical.

4. Educational approaches need to consider student preferences for support including:

    a. using technology to support academic and learning needs;

    b. one-on-one support inside and outside the classroom;

    c. support for executive function skills (e.g., planning, organisation, time management skills);

    d. social aspects of schooling (e.g., working as part of a group, getting along with others, teasing and bullying);

    e. staying calm and being able to access time away when it is needed;

    f. additional support for tasks requiring handwriting;

    g. support for sensory needs; and,

    h. support for times of transition or pending change.

5. Technology needs to be considered as an essential element of support. A range of technology supports have a place in supporting the needs of students on the spectrum across the whole school day.

6. The importance of school connectedness and supporting school connectedness in students on the spectrum has been recognised and strategies to support and enhance connectedness need to be considered.

7. Support for students on the spectrum in educational settings needs to take into consideration the sensory experiences of the environment which may impact on learning, especially noise, touch, and staying still for long periods of time.

8. Supporting comorbid conditions experienced by students on the spectrum is essential, especially anxiety, depression, attention difficulties, learning and communication issues, and the auditory processing needs of students. This is particularly important as they move into adolescence.

9. Future professional learning for educators and specialists needs to focus on teacher confidence and self-efficacy in supporting students on the spectrum.

10. Educator and Specialist training needs to be delivered in a variety of ways, including using technology, to support learning and development. This includes face-to-face professional development training, seminars, professional support methods (e.g. coaching) and observations of others practice online.

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