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Copies of this report can be downloaded from the Autism CRC website **autismcrc.com.au**.

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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 behaviour (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.

1. Introduction

School environments and mainstream curricula present unique challenges for students on the autism spectrum. An awareness of these challenges, as well as the skills and strengths of students on the spectrum, can assist teachers to address these needs within an inclusive approach that celebrates diversity within the classroom. Challenging and complex behaviours are more frequent in children on the spectrum and without appropriate intervention these behaviours tend to persist across an individual's lifespan (Murphy, Beadle-Brown, Wing, Gould, Shah, & Holmes, 2005). As a result, one of the biggest challenges faced by educators is ensuring that the high impact social, emotional and behavioural needs some students on the spectrum experience can be successfully met within educational contexts (Koegel, Matos-Freden, Lang, & Koegel, 2012).

The development of an inclusive school culture and learning environment is therefore a priority for all schools. Schools are working hard to promote a culture that makes all students feel welcome and respected. These environments need to provide for the learning needs of all students and enable them to achieve their potential (Knowles, 2013). While the need to embrace and empower all members of the school community has been recognised (e.g., Ainscow & Sandill, 2010; Carrington, 1999), significant inequalities still exist in the education of children and young people, especially those who are perceived to be disadvantaged in some way.

One such group often perceived as difficult to effectively meet the needs for in educational settings are students on the spectrum. Research suggests that in recent years the prevalence of a diagnosis on the spectrum is increasing (Wei, Wagner, Christiano, Shattuck, & Yu, 2014).

Schools are centrally important to families and students on the spectrum (Wei et al., 2014). However, despite the large number of students on the spectrum attending mainstream schools, students on the spectrum continue to present unique challenges to school systems and often face greater difficulty in benefitting from inclusive education environments (Humphrey & Lewis, 2008).

As a result, schools can be challenged as they seek to effectively meet and support the needs of students on the spectrum. In addition, a wide gap between research based findings and school based interventions continues to exist for students on the spectrum (Kasari & Smith, 2013).

Interventions are often developed without consideration for school resources and context, and may limit the application of research based interventions for students on the spectrum within the context of the school environment (Iadarola et al., 2015). In addition, there may be a mismatch between the goals of research based interventions and those that school personnel and parents have for students on the spectrum (Iadarola et al., 2015).

One of the biggest challenges faced by educators is ensuring that all of the identified needs students on the spectrum experience can be successfully met within educational contexts (Koegel et al., 2012). Within the field of autism there is an expressed hope that "the surge in investment in autism research might lead to translational benefits that will, in time, enhance the life chances of autistic people and their families" (Pellicano, Dinsmore, & Charman, 2014, p. 756). This can only be achieved if the research is directed at those areas that are most needed and can make the most impact, and is commensurate with the needs and priorities of the autism communities it serves (Pellicano et al., 2014). Little is understood about the needs of autism communities as identified by that community or the stakeholders involved (Pellicano et al., 2014).

Utilising a mixed methods approach, including a survey and follow up in-depth interviews, the Australian Autism Educational Needs Analysis obtained information from four key stakeholder groups regarding the range of educational needs of students on the spectrum (5-18 years). The first stage of the research was the development of the first large-scale national survey of the educational needs of students (aged 5-18 years) on the spectrum. The survey collected information from four key stakeholder groups:

- Educators
- Specialist support staff (e.g., therapists, psychologists, specialist education support staff)
- Parents of students on the spectrum (aged 5-18 years)
- Students on the spectrum (aged 11-18 years)

The second stage of the research was to follow up with in-depth interviews with a representative sample from each stakeholder group.

Key objectives of the project were:

1. To gain a comprehensive profile of the educational support needs of students on the spectrum including those with high impact social, emotional and behavioural needs.
2. To identify the needs of educators to effectively manage and support students on the spectrum, including those with complex and challenging needs, to promote and maintain a strong sense of school connectedness.
3. 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.
4. 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.

The Australian Autism Educational Needs Analysis investigated the needs of school personnel, parents and students on the spectrum. The purpose of a needs analysis is to identify and evaluate needs of various stakeholders. A needs analysis is important both in the initial stages of planning and for ongoing programs as needs can change. A needs analysis is a part of all programs as having a program demonstrates that a need exists (Smith, 2010). A need is speculative and hypothetical and requires the collection of data and an understanding of community attitudes of the needs and the program itself.

In the past, assessment of the support needs of students on the spectrum and their families has been hindered by the ambiguity surrounding the definition of need and the lack of a conceptual framework to guide investigations (Brown, Ouellette-Kuntza, Huntera, & Kelleye, 2010). A needs analysis can provide clearer descriptions and lead to a more productive statement of optimal service engagement (Smith, 2010). Furthermore, a needs analysis can help define the educational needs of students on the spectrum and describe the nature of these educational needs. These clearer descriptions can lead to a more productive statement of educational provisions required for students on the spectrum and help to develop appropriate supports and service provision for these students. A needs analysis can also help identity the needs of service providers such as educators and specialists involved in the care and educational support of students on the spectrum.

2. Research design

2.1 RESEARCH METHODS

Researchers undertaking the Autism CRC Australian Autism Educational Needs Analysis used a nationwide survey to obtain information from four key stakeholder groups including educators, specialists, parents, and students on the spectrum. The aim of the survey was for key participants to identify, from their perspective, the educational needs of students on the spectrum (aged 5-18 years) within school settings. The survey allowed for a range of quantitative and qualitative data to be collected by providing participants with a range of closed and open ended questions to complete. The survey officially opened on September 1st, 2014 and closed on January 31st, 2015. The surveys were followed up with interviews with 10 participants from each of the four stakeholder groups. When completing the surveys, participants could indicate if they were prepared to engage in a follow- up interview or focus group. An explanatory sequential mixed methods design (Creswell, 2013) was used, whereby qualitative data gathered through semi-structured interviews further explained and extended quantitative and qualitative data collected through the initial surveys. The interviews allowed for the collection of more in-depth qualitative data on the educational needs of school aged students on the spectrum. Interviews were conducted from May 1st, 2015 to August 31st, 2015. Findings from the project are shared below.

2.2 RESEARCH QUESTIONS

The Australian Autism Educational Needs Analysis sought to answer the following questions:

1. What do key stakeholders perceive are the educational needs of students on the spectrum (aged 5-18 years), particularly those with high impact social, emotional, behavioural and complex needs?
2. What do key stakeholders perceive are the supports required to successfully meet the educational needs of students on the spectrum (aged 5-18 years), particularly those with high impact social, emotional, behavioural and complex needs within school settings?
3. How do key stakeholders perceive technology and/or a ‘tele-consult model’ may help support these needs?
4. What do stakeholders perceive is the role of technology and/or a “tele-consult model” in supporting the needs of students on the spectrum?

5. What other technology or technology platforms would schools/educators be interested in trialing to support the needs of students on the spectrum (aged 5-18 years)?

2.3 PARTICIPANTS

Four key participant groups consisting of various stakeholders were recruited for this study. Recruitment from these participant groups were drawn from all states of Australia, across all educational organisations and sectors within the educational school age range of 5-18 years.

Group 1: Students on the spectrum

Students on the spectrum aged 11-18 years.

Group 2: Parents of students on the spectrum

Parents of school aged students on the spectrum (5-18 years).

Group 3: Educators

Educators in a range of roles (e.g., administration, class teachers, and ancillary staff) who were involved in or had previously been enrolled in the education of school aged students on the spectrum.

Group 4: Specialists

People in a range of specialist roles (e.g., education specialists, allied health professionals, psychologists) who were working or had previously worked to support school aged students on the spectrum.

2.4 RECRUITMENT

Selective sampling using a maximum variation sampling technique (Patton, 2002) was used to recruit participants in each state. This type of sampling enabled a wide range of perspectives relating to the educational needs of students on the spectrum to be captured and similarities and differences in perspectives to be highlighted. Prior to recruitment, key organisations, people and support groups were identified as being appropriate to approach.

Examples of the types of organisations approached nationally during the recruitment included:

- the Autism CRC
- parent-based organisations and support groups
- autism specific organisations
- educational organisations
- professional organisations
- professional networks

Generally, recruitment occurred through electronic means and via social media (word of mouth, radio interviews, conferences, email signatures, flyers and advertising on key websites) 99 national and state-based organisations were approached to distribute the survey.

2.4.1 Electronic dissemination

Electronic dissemination of the recruitment flyer for the educational needs analysis targeted members from a range of professional- and parent-based national and state organisations. Some of these were also ‘essential’ or ‘other’ partners within the Autism CRC.

To assist in recruiting educators, dissemination of the flyer and a link to the survey were posted via a list serve of special education educators in the Department of Education and Training, Queensland. In comparison, while primarily recruiting parent participants, the posting of recruitment information on the Facebook pages of two Autism CRC essential partners, Autism Queensland and Aspect in NSW, also resulted in the recruitment of some educators, specialists and students on the spectrum.

Similarly, the reach of several recruitment organisations crossed participant groups. Other organisations were approached because they were a professional organisation or parent body with members which matched the participant groups we were trying to recruit (e.g., therapy or educator associations).

The following data were logged throughout the recruitment period and collated at the conclusion of the survey using Microsoft Excel. Overall, across the 99 national and state-based organisations approached, 33 (12 national and 21 state) disseminated the flyer to their respective members. Of the 66 organisations who did not disseminate the flyer, 58 did not respond to the initial contacts, two declined and six emails were returned as ‘undeliverable’.

2.4.2 Recruitment of parents, educators and specialists through national bodies

In total, 30 national organisations were approached (29 via email; 1 via website enquiry). These included 19 national education organisations, for example, the Australian Institute of School Leaders (AITSL; targeting School Principals) and the Independent Education Union of Australia (targeting a wider range of educators). Nationally, eight parent organisations were approached, including the Isolated Children's Parents' Association of Australia (ICPA; targeting families in rural and remote areas) and Positive Partnerships. Apart from three state-based organisations, specialist participants were approached through national organisations including Occupational Therapy Australia, Speech Pathology Australia and the Australian Psychological Association (particularly including its educational and developmental stream). Subsequent dissemination through state branches or special interest groups was at the discretion of each professional body. Of national organisations approached, 36.67% (N = 11) disseminated the study information (four education, three specialist, and four parent organisations).

2.4.3 Recruitment of parents, educators and specialists through state bodies

Of the 69 state-based organisations approached, 21, (30.4%) disseminated the recruitment information to their members.

A summary of the participant groups across states and stakeholders can be seen in Table 1 below:

Table 1: Number of State-Based Organisations According to Target Participant Group

	QLD	NSW	ACT	VIC	TAS	SA	WA	NT	TOTAL
Educators	4	0	0	0	0	3	0	0	7
Specialists	0	1	0	0	0	0	0	0	1
Parents	4	2	1	2	1	1	1	1	13
TOTAL	8	3	1	2	1	4	1	1	21

2.5 DATA COLLECTION

There were two means of data collection: national surveys and semi-structured follow-up interviews.

There were no pre-existing surveys available that covered all of the topics or content the research team sought information on. As a result, four separate surveys were constructed to collect qualitative and quantitative information about the experiences and perspectives of the four key stakeholder groups and their views of the educational needs of Australian school-aged students on the spectrum. The stakeholder groups included: educators, specialists, parents of school-aged students on the spectrum (aged 5-18 years), and students on the spectrum (aged 11-18 years). A survey was developed for each group to help accurately reflect their differing roles in supporting the educational needs of students on the spectrum, and to capture the across stakeholder groups. The survey questions were based on the core characteristics of the autism spectrum, the experiences and knowledge base of the multidisciplinary research team, and information from the Australian Advisory Board on Autism Spectrum Disorders' position paper (2010) titled Education and Autism Spectrum Disorders in Australia: The provision of appropriate educational services for school-age students with Autism Spectrum Disorders in Australia.

The surveys collected quantitative and qualitative information on a range of topics. The topics covered in the 4 surveys are outlined in Table 2 below. The student survey was designed for students on the spectrum aged 11-18 years. The student survey could only be accessed through the parent survey to ensure that, to a great extent, student vulnerability and capacity to consent was judged by their parents. On the parent survey, the parent provided (anonymous) information about the child's diagnosis, education-to-date, and additional in-school support received. Once this information was completed, the parents were provided with a link to the student survey if they and their child gave consent.

It was at this point the student completed questions directly related to their educational needs and wellbeing.

The surveys were piloted with 32 people consisting of 12 educators, 10 parents and 10 specialists. When piloting the survey, participants completed a feedback sheet and could place comments on the surveys. The main feedback from the pilot survey focused on survey length and repetition across some questions. As a result, the surveys were modified and condensed in response to the feedback received.

Table 2: Topics Used to Collect Information Collected Across 4 Different Participant Surveys

Topics used to collect information in Survey	Educator Survey	Specialist Survey	Parent Survey	Student Survey
Demographics				
Professional Learning				Not included in student survey
Whole School Approaches with Students on the Spectrum	Not included in educator survey	Not included in specialists survey		Not included in student survey
School Needs of Students on the Spectrum				
Sensory Needs of Students on the Spectrum				Not included in student survey
Behavioural & Mental Health Needs of Students on the Spectrum				Not included in student survey
Transition Needs of Students on the Spectrum				Not included in student survey
School Connectedness & Students on the Spectrum				
Psychological Sense of Other Membership (PSOM)				Not included in student survey
Psychological Sense of School Membership (PSSM)	Not included in educator survey	Not included in specialists survey	Not included in parent survey	
Technology & Students on the Spectrum				
Strengths and Difficulties Questionnaire (SDQ)	Not included in educator survey	Not included in specialists survey	Not included in parent survey	
Child Depression Inventory (CDI)	Not included in educator survey	Not included in specialists survey	Not included in parent survey	
Spence Children's Anxiety Scale	Not included in educator survey	Not included in specialists survey	Not included in parent survey	
Teleconsultation			Not included in parent survey	Not included in student survey
Open ended qual comments				

2.5.1 Semi-structured interviews

The surveys were followed up with semi-structured interviews with educators, specialists, parents and students on the spectrum from the participant groups. The purpose of the interviews was to gain a richer perspective about participants' views of the educational needs of students on the spectrum. The interviews collected more in-depth qualitative data on the educational needs of students on the spectrum based on experiences and perspectives of participants. In addition, information on the factors influencing these educational experiences was also sought. The format

of the interviews was determined according to the individual needs of each participant. The format of most interviews was either by telephone or face-to-face.

A semi-structured interview schedule was developed to guide the structure and content of the interview. This schedule was developed based on the initial findings of the survey. The semi-structured schedule enabled the interviewer to probe further, posing follow-up questions and becoming involved in longer conversations with the participants where the exploration of key experiences could be shared and particular observations or perceptions about the participant's experiences could be unpacked (Patton, 2002).

Participants indicated their willingness to be involved in follow-up interviews by providing their contact details when completing the survey. Participants from each state who had indicated interest in the follow-up interviews were then randomly selected. In total, 40 semi-structured interviews were conducted with 10 participants from each of the four stakeholder groups.

2.6 DATA ANALYSIS

2.6.1 Quantitative analysis

The Needs Analysis survey collected data across Australia using an online survey tool called SurveyMonkey. Four different versions of the survey were developed, that is, a survey for educators, specialists, parents and student participants. This was to ensure the surveys were responsive to the unique role of each participant group in the education of students on the spectrum. Data integrity was ensured by including a unique identifying variable to prevent duplicate responses. Further data cleaning practices were completed ensuring accuracy of the data collected (e.g. correct data entry). Data from all surveys were merged into one data file allowing for statistical analysis in SPSS. Descriptive analysis was conducted on variables extracting frequencies, percentages and mean scores to interpret the observations collected.

2.6.2 Qualitative analysis

As part of the surveys, participants were asked various open ended questions that were then qualitatively analysed. Qualitative analysis of open ended questions and interviews was conducted using a thematic approach. "Thematic analysis is a method for identifying, analysing, and reporting patterns (themes) within data" (Braun & Clarke, 2006, p7). Using an essentialist or realist method the analysis was data driven and used an inductive approach to generate themes which reported

on the experiences, meanings and the reality of participants' responses. This allowed important details about the data in relation to the research questions to be captured and a rich thematic description of the data set to be developed with the themes identified being strongly linked to the data (Braun & Clarke, 2006; Patton, 2002). Thematic analysis of participants' qualitative comments revealed that across each of the surveys there was generally a strong alignment between the opinions of participants. Individual responses were grouped into themes which are presented in tables throughout the report and demonstrate this alignment, but also indicate where differences lay. Some comments were coded into multiple themes as appropriate. Examples of comments are provided that exemplify the comments that were coded into many of the themes included in the analysis.

2.7 ETHICAL CONSIDERATIONS

2.7.1 Ethics approvals

Primary ethics approval to conduct the study as outlined in this report was initially obtained from the Queensland University of Technology (QUT). The educator, specialist and parent surveys were considered low risk and ethical approval was received from the QUT Research Ethics Approval Committee (No. 1300000790). Due to the more high risk nature of the student population, a separate ethics approval was sought through the National Ethics Application Form (NEAF). Ethics approval through the NEAF was received from the QUT Research Ethics Approval Committee (No.1400000501).

Additional ethics approval was also obtained from other participant organisations including:

- Autism Spectrum Australia (Aspect);
- Department of Education and Training, Queensland; and
- Griffith University.

In addition, gatekeeper approval was obtained from:

- Autism Queensland;
- Aspergers Services Australia; and
- Brisbane Catholic Education.

2.7.2 Inclusion

The research team aimed to gain flexible and meaningful participation from the broadest selection of participants possible from each stakeholder group. This was achieved using a range of methods.

2.7.2.1 Recruitment

In relation to recruitment, the research team aimed to recruit across all states and territories of Australia including rural and remote areas. Recruitment used a broad range of recruitment strategies including through the use of technology, phone, word of mouth, and written material. Where possible, monitoring and using response rates of different participant groups and their location once recruitment had begun to develop a more targeted strategy for recruitment in areas where response rates were lower or inequitable.

2.7.2.2 Survey Completion

In relation to the surveys, the surveys were piloted prior to being finalised. The feedback was used to refine the survey, improve its design and ensure that it was as accessible as possible to all participant groups. The surveys were kept as short in length as possible for all participant groups. Hard copies of the surveys were provided if requested. Interpreter assistance was available to participants if required and requested. The language in all communications and within the surveys and interviews was made as inclusive and non-stereotyping as was possible. Furthermore, student participants were allowed the opportunity to receive help to complete the survey if required.

2.7.2.3 Conducting Interviews

In relation to the interviews, the interviews were conducted on a day, date and time that suited the participants in environments of their choice. Small sized focus groups or individual interviews were provided as needed by participants. Allowing written responses to interview questions was allowed if requested or allowing responses via email. Students were provided access to the questions prior to the interview and the interview questions were modified for students if required.

2.7.3 Consent

Participants who received information about the online survey and were interested in participating provided their consent to participate by accessing the link that was provided in the email to complete the survey. Prior to starting the survey, participants were provided with information about the research project, its primary purpose, participation demands, as well as potential benefits of the research. The student survey could only be accessed through the parent survey to ensure that, to

a great extent, student vulnerability and capacity to consent was judged by their parents. On the parent survey, the parent provided (anonymous) information about the child's diagnosis, education-to-date, and additional in-school support received. Once this information was completed, the parents were provided with a link to the student survey if they and their child gave consent. It was at this point the student completed questions directly related to their educational needs and wellbeing.

At the completion of the survey, participants were asked if they would consider being involved in either a follow-up semi-structured focus group interview or semi-structured individual interview. They were also asked to indicate what mode they would prefer for these to take place (e.g., phone, face-to-face, using online technologies). If interested in participating further, participants were asked to provide their preferred contact details. These contact details were provided on a separate page of the survey and were not linked to the survey responses so that anonymity was maintained.

A member of the research team then contacted some of those participants who had expressed an interest in participating in the follow-up interviews and provided them with consent forms, information sheets and negotiated suitable times to conduct the interview that met the participants' needs. Initial selection was based on trying to ensure accurate representation across all states of Australia, and also ruling out any generic email or phone contacts participants had provided due to ethical concerns around confidentiality these created. After this selection process, a random sample of participants from each of the parent, educator and specialist groups was contacted until a ceiling of 10 from each group was reached. In the case of the student participant group, all students interested in being involved were contacted as there were only 10 who initially indicated any interest in being involved in follow-up interviews. Participants returned their signed consent by post or email.

3. Findings

3.1 SURVEY PARTICIPANT INFORMATION

In total there were 1,468 people who completed the survey. Respondents 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).

3.2 SURVEY PARTICIPANT DEMOGRAPHICS

3.2.1 Educator demographics

Of the 1,468 participants completing the survey, 248 (16.9%) were educators. Over 90% of all educator, specialist and parent respondents were female. The following information was collected from the survey about educators.

3.2.1.1 Educator geographical location and school systems

All states of Australia were represented by educators completing the survey (See Figure 1).

Figure 1: States of Australia represented by educator participants

Overall, educators from state or public school systems accounted for 57.3% of the educator survey participants, with a further 24.6% from Catholic education systems, and 12.9% from independent education settings. An additional 8.1% indicated they worked in autism specific schools, while 7.7% were working in public education run special schools (See Figure 2).

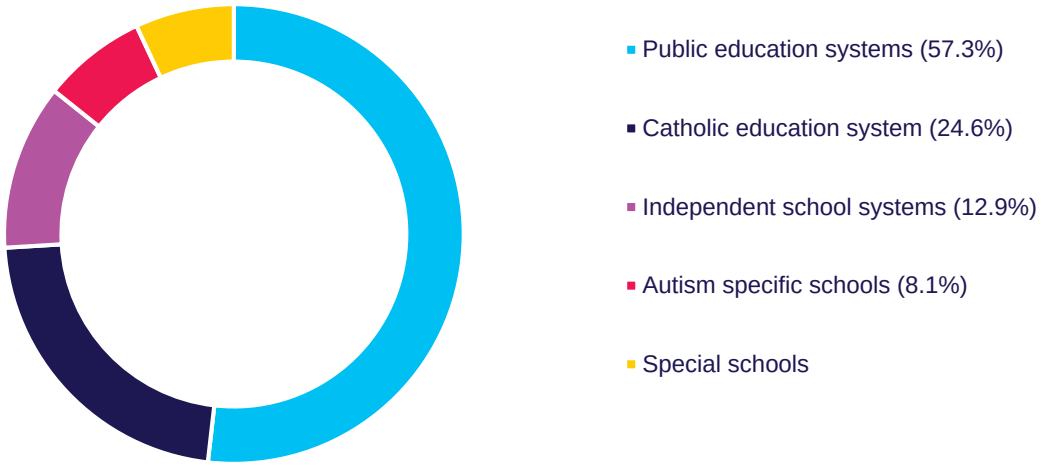

Figure 2. School systems represented by educators in the survey

Additionally, all participants were asked their location. The data suggests a broad cross section of educators from a range of metropolitan, regional, rural and more remote regions (Table 3 provides a summary of this information).

Table 3: Educators Geographical Location

Educators' Geographical Location	Percentage of educator participants
Australian Capital City	
State government/public school education system	22.1%
Catholic education system	13.7%
Independent education system	6.9%
Autism specific school	4.4%
Special school	0.4%
Within 2 hours drive of a capital city	
State government/public school education system	13.3%
Catholic education system	4.0%
Independent education system	4.0%
Autism specific school	1.2%
Special school	1.6%
In a regional city with populations >20,000	
State government/public school education system	8.5%
Catholic education system	2.8%
Independent education system	1.6%
Autism specific school	2.4%
Special school	1.6%
Within 2 hours of a regional city	
State government/public school education system	2.8%
Catholic education system	2.4%
Independent education system	0.4%
More than 2 hours drive from a city (capital or regional)	
State government/public school education system	3.2%
Catholic education system	2.4%

3.2.1.2 Types of schools and grade levels catered for

Educators were asked to indicate the grade levels catered for in the school they worked in. Overall, the majority of educators came from schools teaching primary school aged children (45.3%). Of this group, 40.5% represented schools teaching age groups from pre-Year 1 to Year 7, with a further 4.8% from schools teaching Year 1 to Year 7. In addition, there were 14% working in

schools that catered for both primary and secondary students. Within this cohort, 10.5% were in schools catering for pre-Year 1 to Year 12, while 3.5% were in schools that educated Year 1 to Year 12. A further 18.9% were in secondary only schools. Some educators (7.5%) indicated they worked in special education support within a school setting, 16.3% were from special school settings, and a further 10.1% were from autism specific schools settings.

3.2.1.3 Educator profiles

Ranging in age from 24 to 66 years of age with an average age of 42 years, educators had spent an average of 15 years working or teaching in schools. The average number of years spent working with students on the spectrum was 10 years.

3.2.1.4 Educator roles

Educators worked directly in schools in a range of roles including classroom teachers, school administrators, specialist support staff within schools and ancillary support staff. A further 11.2% were in positions such as casual and part-time teaching roles, youth worker, school chaplain positions, split administrative and teaching roles, education officers and directors. Of the 248 educators, 18.1% were also a parent of a child on the spectrum. Amongst the educators, 2% identified as being of Aboriginal and Torres Strait Islander descent, with a further 3.7% having English as a second language.

3.2.1.5 Grade levels commonly taught

There was good representation of educators teaching across all year levels in schools. In addition, some educators taught younger children prior to school age, while others supported post school students. Table 5 lists the range of year levels educators taught in schools and the percentage of educators indicating they commonly taught each of these levels.

Table 5: Year Levels Commonly Taught by Educators

Year level	Percentage of educators
Early intervention	0.8%
Pre-primary	10.9%
Prep/foundation year	7.3%
Year 1	34.3%
Year 2	30.6%
Year 3	29%
Year 4	28.6%
Year 5	21.8%
Year 6	25.4%
Year 7	25.4%
Year 8	22.6%
Year 9	23%
Year 10	23%
Year 11	17.8%
Year 12	16.5%
Post school	1.2%
All year levels	1.2%
Leadership positions across a range of ages	1.2%

3.2.1.6 Additional educational support options available

Educators indicated on the survey a number of additional educational support options they had access to within their schools to help provide support and advice to them and the students on the spectrum (see Table 6).

Table 6: Additional Educational Support Available to Educators

Year level	Percentage of educators
Teacher aide support	86.3%
In-class support	69.8%
Behaviour support	56.9%
Small group support	56%
Social skill support	55.6%
Learning support	53.6%
Playground/lunchtime support	52.4%
Communication support	45.6%
1:1 support	42.7%
Speech language pathologist	42.3%
Specialist teacher	41.9%
Withdrawal support	37.5%
Occupational therapist	34.3%
School counsellor	31%
Guidance officer	29.8%
Advisory teacher	25.8%
Psychologist	23.8%
Physiotherapist	12.1%
None of the above	1.6%

3.2.1.7 Educator provided support

The educators indicated they spent on average 19.8 hours per week specifically supporting students on the spectrum. This support was provided in a range of different settings including: a) in their own classroom (19.5%); b) in mainstream classrooms (12.4%); c) in other classrooms (11.3%); d) in special education classrooms (10.4%); e) supporting others in the school environment (9.5%); f) 1-1 support in a classroom (7.1%); and in other roles (27.2%) including administrative positions, adult education, ABA therapists, alternative education, and teacher non-contact time (see Figure 3).

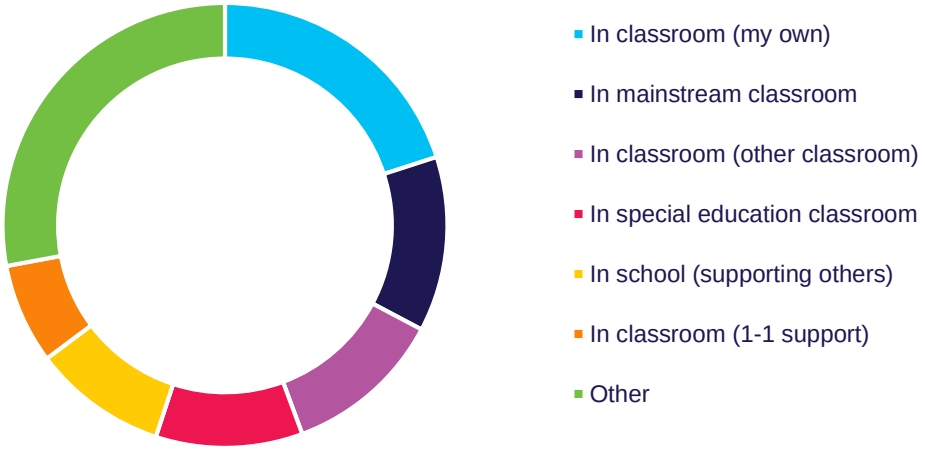

Figure 3: Context of educators' teaching experience with students on the spectrum

The educators provided estimates to the type of support they provided and the percentage of their work time per week taken up in different aspects of supporting students on the spectrum. Overall on average, working with the student on the spectrum took up the largest percentage of their time per week (39.8%), followed by searching for and developing resources (22%). Furthermore, educators indicated that consultation with peers of students on the spectrum (21.7%), with a classroom teacher (21.3%), and with ancillary support staff (21%) took up similar amounts of time in their working week. This was followed by consultation with administration (14.8%) and with parents (14.8%) and looking at written reports (14.1%). Consultation with outside agencies (10.2%) took on average the least amount of time in the working week. A total of 21.5% of educators indicated they spent time during their working week doing all of these things.

In their teaching, educators indicated that there were students with a range of other disabilities that they provided support to (see Table 7 for more information).

Table 7: Other Disabilities Supported by Educators in Schools

Disability supported	Percentage of educators
Intellectual disability	13.2%
Attention deficit hyperactivity disorder	11.8%
Speech language impairment	11.7%
Anxiety disorder	10.7%
Physical impairment	7.2%
Social emotional disorder	7.2%
Oppositional defiant disorder	7.1%
Hearing impairment	6.3%
Social communication disorder	5.9%
Depression	5.3%
Vision impairment	5.2%
Severe language disorder	4.3%
Conduct disorder	2.3%
Movement disorder	0.9%

3.2.1.8 Educator confidence in supporting students on the spectrum

Educators were asked to rate on a 1-5 Likert scale (1- being strongly disagree, 3- being neither agree nor disagree, and 5- being strongly agree) how confident they were in response to different statements related to supporting students on the spectrum. On average, most educators agreed that they felt confident to support and teach students on the spectrum in school. In addition, they marginally agreed they were confident in their ability to: a) find evidence based practices to support and teach students on the spectrum; b) evaluate evidence based practices and their application to meet the needs of students on the spectrum; and, c) apply these evidence based practices to students on the spectrum. Overall, educators indicated they somewhat agreed that they were confident to support students on the spectrum

3.2.2 Specialist demographics

3.2.2.1 Specialist geographical location and school systems

Of the 1,468 participants completing the survey, 179 (12.2%) were specialists working with educators or school aged children on the spectrum. All the states of Australia other than the Australian Capital Territory were represented by specialists completing the survey. As shown in Figure 4, there were similar levels of participation across the other states of Australia to that of the educators.

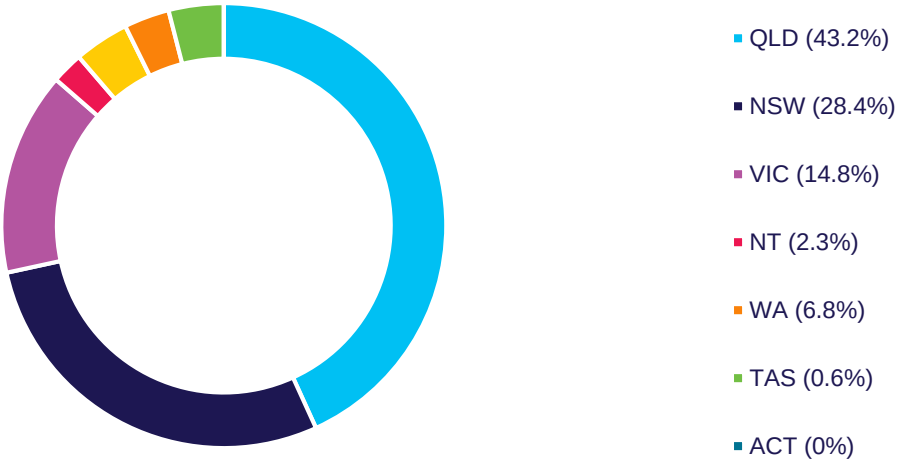

Figure 4: States of Australia represented by specialist participants

Additionally, specialists working in state or public school systems accounted for 33.5% of the specialist survey participants, with a further 18.4% working within the Catholic education systems, and 6.1% working in independent education settings. An additional 11.7% indicated they worked in private practice, 2.2% stated they worked for non-government organisations, 1.7% indicated they were in government based positions, and 0.5% said they worked in a not for profit organisation.

Furthermore, data suggests a broad cross section of specialists who serviced a range of metropolitan, regional, rural and more remote regions of Australia completed the survey (Table 8 provides a summary of this information). These specialists visited a range of educational settings across wide reaching regional, rural and remote areas of Australia and included supporting students working through distance education

Table 8: Geographical Locations Serviced by Specialists Completing the Survey

Specialists' geographical location	Percentage of specialist participants
Australian Capital City	
State government/public school education system	36.9%
Catholic education system	20.7%
Independent education system	15.6%
Autism specific school	8.4%
Special school	11.8%
Within 2 hours drive of a capital city	
State government/public school education system	22.3%
Catholic education system	10.5%
Independent education system	7.3%
Autism specific school	2.8%
Special school	5%
In a regional city with populations >20,000	
State government/public school education system	17.9%
Catholic education system	12.8%
Independent education system	8.9%
Autism specific school	1.7%
Special school	5.6%
Within 2 hours of a regional city	
State government/public school education system	8.4%
Catholic education system	4.5%
Independent education system	2.8%
Autism specific school	0.5%
Special school	1.8%
More than 2 hours drive from a city (capital or regional)	
State government/public school education system	7.8%
Catholic education system	9.5%
Independent education system	2.8%
Autism specific school	0.5%
Special school	1.1%

3.2.2.2 Types of schools and grade levels catered for

Specialists were asked to indicate the grade levels catered for in the school they worked in. Overall, the majority of specialists worked in schools catering for primary school aged children (51.8%). Of this group, 43.9% worked with schools providing for children from pre-Year 1 to Year 7, with a further 7.9% working with schools educating Year 1 to Year 7. Furthermore, 35.7% of specialists worked with schools that catered for both primary and secondary students. Within this specialist cohort, 28.4% worked with schools catering for pre-Year 1 to Year 12, while a further 7.3% provided support to schools that educated Year 1 to Year 12. An additional 12.8% of specialists indicated they provided support to secondary only schools. Some specialists (28.7%) indicated they provided support to the special education personnel within a school setting, while 23.2% worked with special school settings. A further 9.1% worked with autism specific school settings and 1.8% indicated they supported distance education contexts.

3.2.2.3 Specialist profiles

The specialists' profiles were similar to those of the educators. Similarly to educator participants specialists ranged in age from 23-78 years of age with an average age of 44 years. In addition, comparable to educators, specialists had spent an average of 15.6 years working in schools.

Comparable to educators, the average number of years spent working with students on the spectrum was 11.5 years. Of the 179 specialists to complete the survey, 8.9% were also a parent of a child on the spectrum. Additionally, amongst the specialists less than 1% identified as being of Aboriginal and Torres Strait Islander descent, with a further 5% having English as a second language (see Table 9 for more information).

Table 9: Specialist Demographics

Specialist Demographics	
Female	95.5%
Male	4.5%
ATSI	Less than 1%
ESL	5%
Mean age	44 years
Age range:	23-78 years
Teaching/working in schools	15.6 years
Range:	0-40 years
Years supporting students on the spectrum	11.5 years
Range:	6 months - 26 years
Number of students on the spectrum taught or supported over your career?	175
Range:	27-1635
During a whole year, what number of students do you support who are on the spectrum?	38
Range:	1-450
On average, what amount of time (approximately) do you spend on a single visit/consultation with students on the spectrum?	1.5 hours
Range:	0-7 hours
Parent of a child on the spectrum	8.9%

3.2.2.4 Specialist roles

Of the specialists completing the survey, the majority were allied health professionals (50.3%) with a further 45.3% signifying they were specialist education support staff.

Amongst the specialists, 44.4% supported high schools, 79.6% supported primary schools, and 8% indicated they supported college settings. Of the 62.3% of specialists who supported public school settings, 22.8% were public independent school settings. Among the specialists, 40.1% supported Catholic school contexts, while 35.8% of specialists provided support to special schools and a further 15.4% supported autism specific schools.

When asked what support options they provided to schools, specialists (could tick as many options as applied) indicated that they provided a range of different options to schools they serviced. These included the most common support options of:

a) face-to-face support in schools with teachers (92.7%);
b) face-to-face support in schools with students on the spectrum (91%);

c) face-to-face support in schools with parents (80%); and,
d) face-to-face support in schools with administrators (57%).

The less common supports specialists provided included more remote based support such as:

e) regular scheduled support visits face-to-face support external to schools (25.5%);
f) support via teleconference (9.7%);
g) support via videoconferencing (6.7%); and,
h) other remote technologies (e.g., Skype) (6.7%) (See Figure 5 for more details).

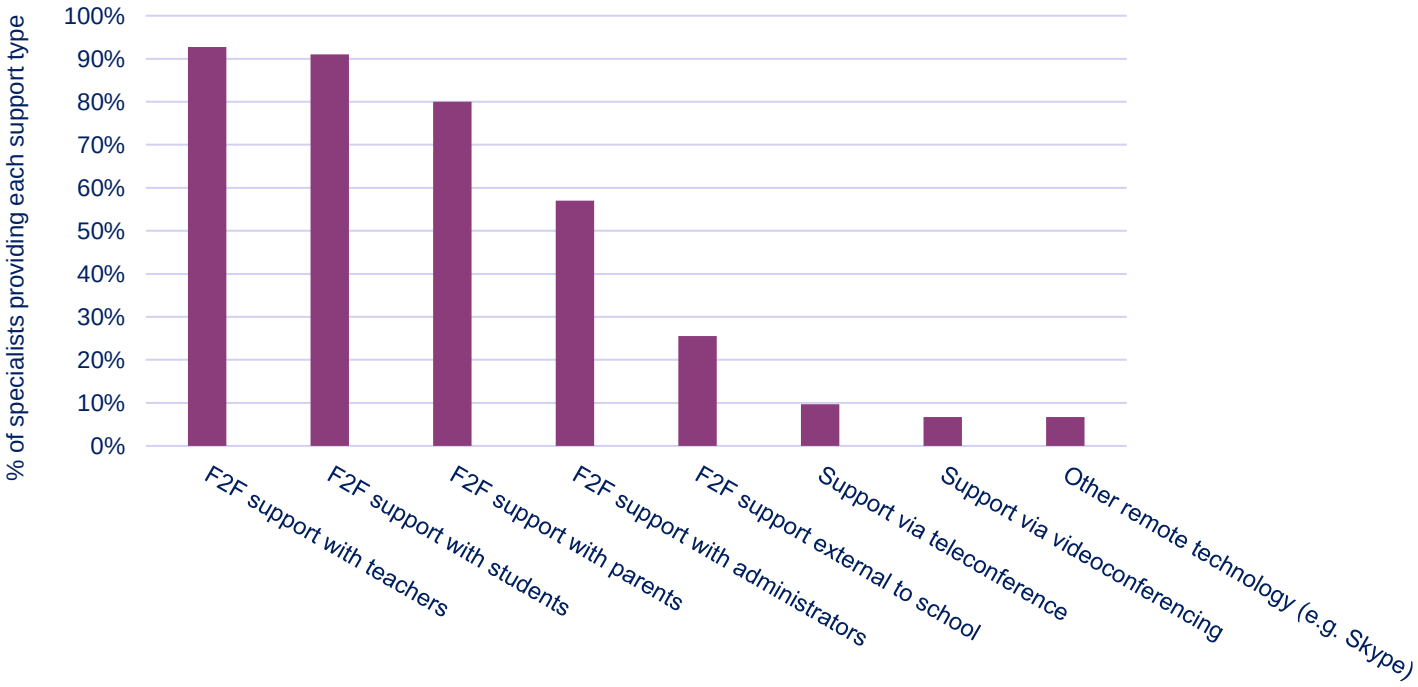

Figure 5: Range of specialist support provided to educational settings

The specialists indicated that most commonly schools requested the support (85.8%), followed by parents (75.7%), external agencies (29%) and autism specific agencies (16.6%) (see Figure 6).

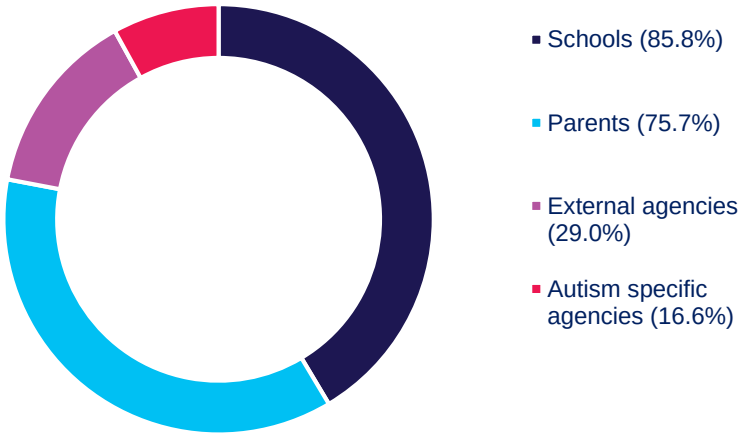

Figure 6. Source of referral for specialist support

Table 10 below provides a summary of key aspects of specialist support provision that was provided to educational settings, families and students on the spectrum.

Table 10: Summary of Specialist Role and Support Provision Information

Type of schools supported		Type of support provided		Who requests support	
Primary school	79.6%	Face-to-face support in schools with teachers	92.7%	School	85.8%
High school	44.4%	Face-to-face support in schools with students on the spectrum	91%	Parent	75.7%
Catholic school	40.1%	Face-to-face support in schools with parents	80%	External Agency	29.0%
Public	39.5%	Face-to-face support in schools with administrators	57%	Autism specific agency	16.6%
Public independent	22.8%	Regular scheduled support visits face-to-face support external to schools	25.5%		
Special school	35.8%	Support via teleconference	9.7%		
Autism specific School	15.4%	Support via videoconferencing	6.7%		
College	8%	Other remote technology (e.g. Skype)	6.7%		

In addition to the support and consultancy options available on the survey questions, specialists indicated that they also provided a range of other supports and consultancy services. These included: support within a clinical setting, collegial support to colleagues in other schools, community based services for parents and children, email and telephone support, liaison with medical specialists and allied health, teacher aide support, online professional learning course tutor, and work placement support.

Specialists also provided information on the type of interventions and consultancy they provided in their specialist roles when working with schools. Examples can be seen in Table 11 below.

Table 11: Interventions Provided by Specialists

Types of specialist intervention support and consultancy	
Inclusion	▪ Inclusive programming support ▪ Developing and implementing support plans ▪ Community inclusion programs ▪ IEP ▪ 1:1 therapy ▪ Career counselling
Behaviour	▪ Behaviour support plan development ▪ Complex case management ▪ Conducting functional behavioural assessment ▪ Risk assessments ▪ Supporting implementation of ABA
Communication	▪ Communication support and language interventions
Social/emotional	▪ Supporting management of depression ▪ Anxiety management ▪ Supporting social and play skills
Sensory	▪ Sensory support
Fine and gross motor	▪ Fine and gross motor support
Independent living	▪ Self-care and life skills Feeding support
Teaching and learning	▪ Co-teaching ▪ Curriculum development and adjustment ▪ Literacy support ▪ Support participation and access to learning Identifying resources
Transition	▪ Transition support ▪ Development of transdisciplinary transition plans
Assessments, planning and reporting	▪ Conducting assessments ▪ Allied health program management ▪ Interpretation and implementation of professional reports ▪ Liaison with external allied health and medical personnel ▪ Coordination of learning support ▪ Delivery of professional learning
Mental health	▪ Counselling support ▪ Mental health intervention
Family support	▪ Parent and family support programs ▪ Community based case management ▪ Sibling support

Specialists completing the survey indicated that they all consulted with the classroom teacher (100%) and 95% spent time consulting with other education staff. In addition to consultation with the classroom teacher and education staff, 87.9% of specialists indicated they developed resources, 65.2% developed written reports, while 42.6% consulted with the administration of the school (see Figure 7).

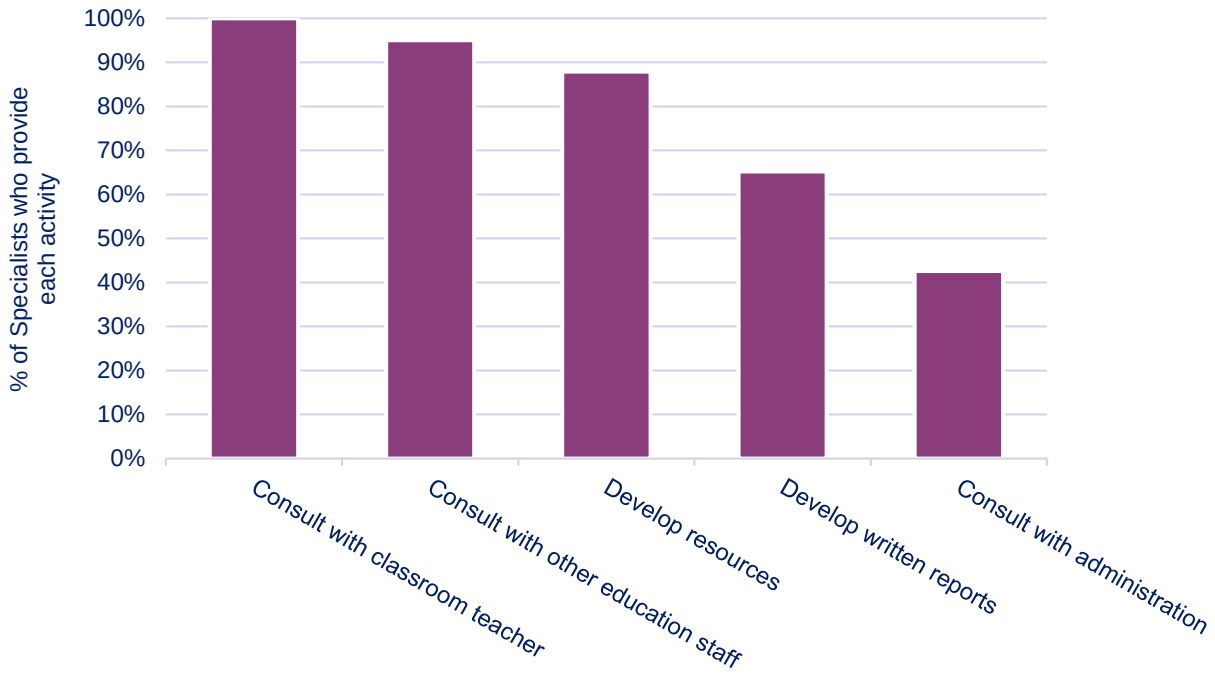

Figure 7:. Specialist consultation activities

The majority of specialist (85.7%) indicated they spent time in their working week completing other support/consultancy activities such as 1-1 intervention or direct therapy, assessment and provision of support based on individual needs. Similar to educators, specialists (who could tick as many options as applied) indicated they spent a high percentage of their time each week working with the student on the spectrum (36%), followed by consultation with parents (19.6%), consultation with classroom teachers (19.2%), and developing resources (15.1%). Other consultation activities included: consultation with ancillary staff (14.2%), writing written reports (13.3%), consultation with administration (9.9%) and consultation with outside agencies (7.9%).

3.2.3 Parent demographics

Of the 1,468 participants completing the survey, 934 (63.6%) indicated they were a parent of a child on the spectrum currently of school age (5-18 years).

3.2.3.1 Parent participant – child diagnostic information

While most of the participants completing the survey were parents, some grandparents (1.5%) also completed the survey and half of these grandparents were also caring fulltime for their grandchild on the spectrum. In addition, two aunts and a day care mother completed the survey. The majority of parent participants (69.5%) completing the survey were referring to their first child on the spectrum, being their firstborn. An additional 36% of parents referred to their second child in the survey. A further 12.2% referred to their third child, 3.2% referred to their fourth child, and 1.5% referred to their fifth child (see Table 12).

Table 12: Parent Participant – Child Diagnostic Information

Parent Participant – child diagnostic information										
Order of birth	1st child (69.5%)	Top 4 most commonly reported ages	2nd child (36.0%)	Top 4 most commonly reported ages	3rd child (12.2%)	Top 4 most commonly reported ages	4th child (3.2%)	Top 4 most commonly reported ages	5th child (1.5%)	Top 4 most commonly reported ages
Age range	4 - 20		2 - 20		1 - 19		1 - 20		4 - 10	
Diagnosed ASD	32.3%	7, 6, 9 & 5	35.4%	5, 6, 7 & 8	33.6%	6, 7, 8 & 9	42.8%	5, 14, 1 & 4 7, 8, 10, 13, 17 & 20)	46.2%	5, 4, 7 & 10
Diagnosed Asperger's Syndrome	29.7%	10, 9, 7 & 8	26.5%	10, 11, 9 & 14	22.1%	7, 8, 6 & 14 (18)	21.4%	5, 8 & 17	23.1%	-
Diagnosed Autism	19.1%	8, 9, 7 & 5	19.7%	8, 7, 5 & 6	21.2%	11, 16, 9 & 5 (6, 8 & 17)	17.9%	11, 4, 7, 8 & 14	23.1%	4 & 8
Diagnosed PDD-NOS	11.9%	8, 10, 6 & 7	10.5%	8, 6, 10 & 9	9.7%	7, 10, 9 & 8	7.1%	13	7.7%	10
Diagnosed Autistic Disorder	3.7%	7, 6, 10 & 9	5.2%	6, 5, 4 & 7 (10 & 8)	8%	7, 6, 8 & 12	7.1%	6 & 12		
Diagnosed Asperger Disorder	3.3%	13, 5, 7 & 12	2.8%	8, 9, 10 & 11 (12 & 14)	7.1%	6, 9, 10, 11, 12 & 14	3.6%	9 & 11		

Overall, the most common diagnosis parents reported was Autism Spectrum Disorder (ASD) (33.7%), this was followed by Asperger Syndrome (27.3%) and autism (19.7%). Among parent participants 11% indicated their children had been given a diagnosis of Pervasive Developmental Disorder - Not otherwise specified (PDD-NOS), while a further 4.9% had been diagnosed with an

Autistic Disorder and 3.4% had a diagnosis of Asperger Disorder. Table 13 summarises this information.

Table 13: Most Common Diagnoses

Overall most common diagnoses	
ASD	33.7%
Asperger Syndrome	27.3%
Autism	19.7%
PDD-NOS	11.0%
Autistic Disorder	4.9%
Asperger Disorder	3.4%

In addition, Table 14 provides information on additional comorbid diagnoses reported by parents.

Table 14: Parent Reported Comorbid Diagnoses their Child on the Autism Spectrum had Received

Comorbid diagnosis child on the spectrum received	Percentage of parents reporting
Anxiety disorder	33.6%
Attention deficit hyperactivity disorder	24.4%
Speech language impairment	24.1%
Social communication disorder	20.6%
Social emotional disorder	17.5%
Intellectual impairment	14.8%
Depression	7.6%
Oppositional defiant disorder	7.1%
Severe language disorder	6.2%
Vision impairment	5.8%
Movement disorder	3.5%
Hearing impairment	2.8%
Physical impairment	2.6%
Conduct disorder	2.2%

3.2.3.2 Parent geographical location and school systems

All the states of Australia were represented by parent participants completing the survey. As shown in Figure 8, there were similar levels of participation across the states of Australia to that of the educators and specialist participants.

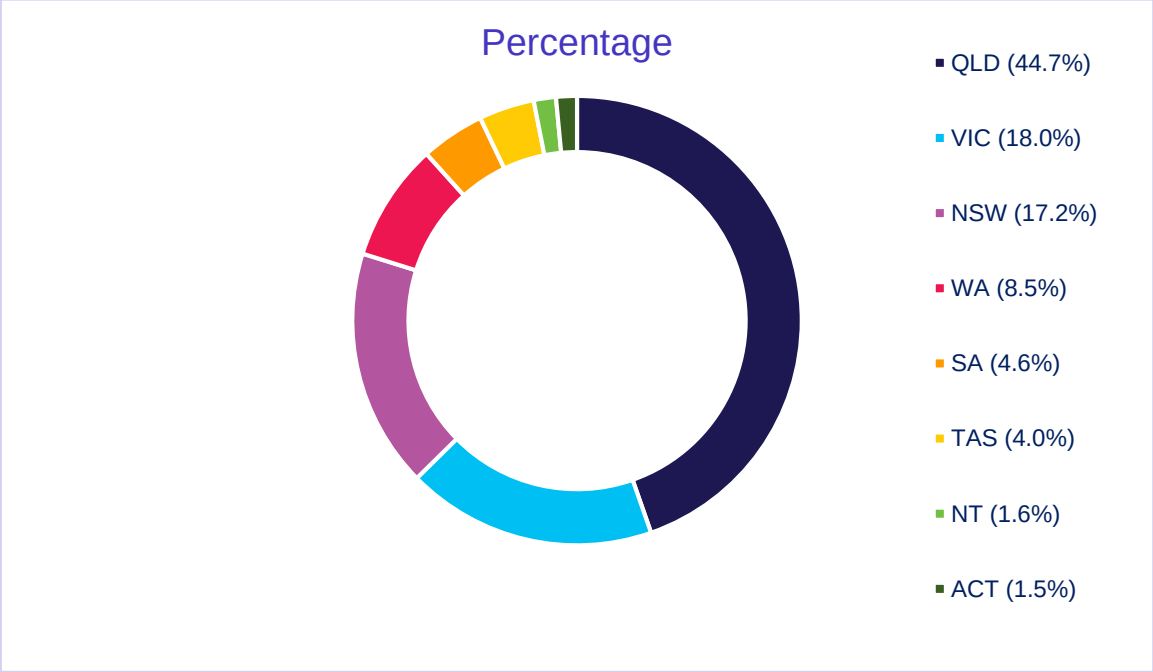

Figure 8. States of Australia represented by parent participants.

Of the parents completing the survey, 61.9% indicated that their children were being educated in the state or public school systems, with a further 13.8% educated within the Catholic education systems, and 9.8% in independent education settings. Overall, 6% of parents reported their children were educated in autism specific schools and 4.1% had children attending special schools. An additional 3% revealed their children were completing their education through distance education with a further 2.2% being home schooled.

Furthermore, similar to the educator and specialist surveys, the data collected from parents suggests a broad cross section of parents representing a range of geographical areas completed the survey (Table 15 provides a summary of this information).

Table 15: Geographical Location of Parents Completing the Survey

Parents' geographical location	Percentage of parent participants
Australian Capital City	
State government/public school education system	26.4%
Catholic education system	5.9%
Independent education system	5.7%
Autism specific school	3.2%
Special school	2.2%
Within 2 hours drive of a capital city	
State government/public school education system	10.2%
Catholic education system	2.9%
Independent education system	1.9%
Autism specific school	1.0%
Special school	0.5%
In a regional city with populations >20,000	
State government/public school education system	12.1%
Catholic education system	3.5%
Independent education system	1.6%
Autism specific school	1.6%
Special school	1.0%
Within 2 hours of a regional city	
State government/public school education system	5.8%
Catholic education system	1.4%
Independent education system	0.3%
Autism specific school	0.2%
Special school	0.2%
More than 2 hours drive from a city (capital or regional)	
State government/public school education system	3.3%
Catholic education system	0.1%
Independent education system	0.3%
Special school	0.2%

3.2.3.3 Types of schools and grade levels catered for

Parents were asked to indicate the grade levels catered for in the school their children attended (see Figure 9 for more information).

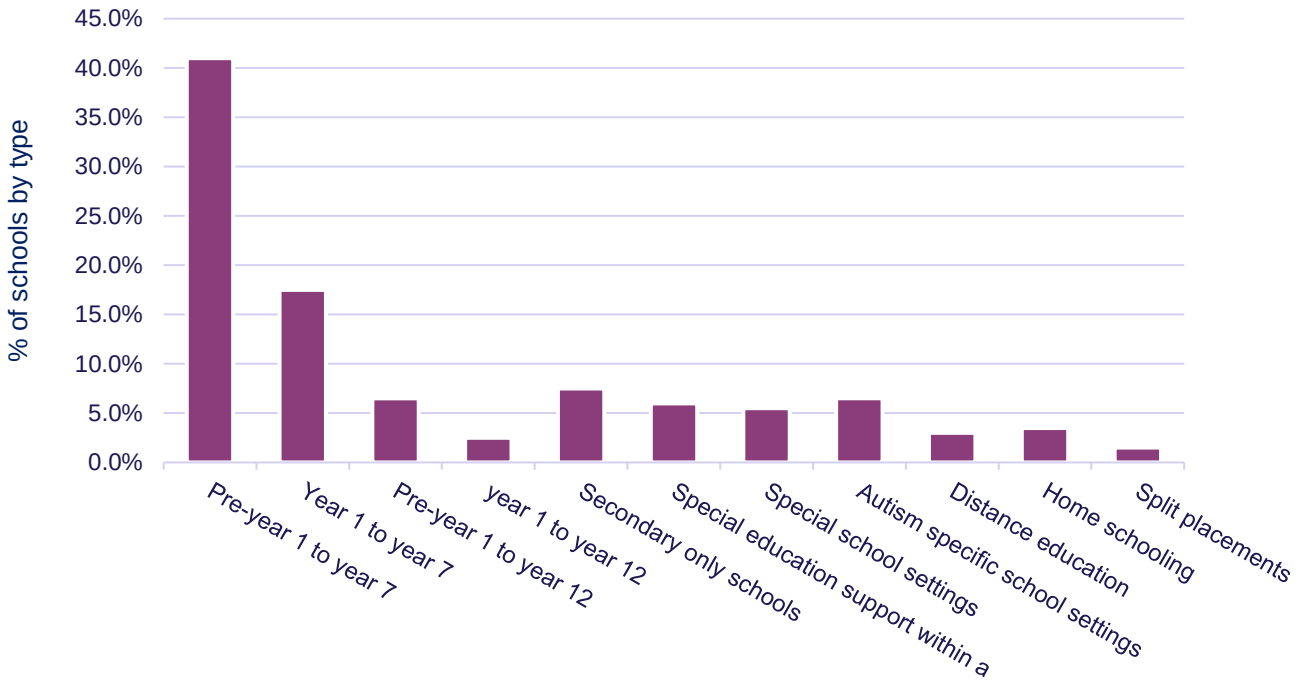

Figure 9: Types of schools and grade levels catered for in school settings parent's child attended

3.2.3.4 Parent profiles

Similar to the educator and specialists who completed the survey, parent participants ranged in age from 18-87 years with an average age of 42 years. Additionally, amongst parent participants, 2% identified as being of Aboriginal and Torres Strait Islander descent, with a further 4.7% having English as a second language.

3.2.3.5 Additional educational support options available

Parents indicated on the survey a number of additional educational support options their children had accessed to help meet their needs (see Table 16). The most common support was teacher aide support (61.5%). Other common supports included: in-class support (37.4%), small group support (27.5%), social skills support (27.4%), learning support (26.6%), and playground/lunchtime support (25.7%).

Table 16: Additional Educational Support Parents Reported Children Accessed

Support	Percentage of parents
Teacher aide support	61.5%
In-class support	37.4%
Small group support	27.5%
Social skills support	27.4%
Learning support	26.6%
Playground/lunchtime support	25.7%
Specialist teacher	24.8%
Behaviour support	21.8%
Speech language pathologist	19.2%
Occupational therapist	16.3%
School counsellor	15.4%
Communication support	15.4%
one-to-one support	14.8%
Guidance officer	13.4%
Withdrawal support	12.8%
Psychologist	12.1%
Advisory teacher	10.1%
None of the above	8.7%
Physiotherapist	3.9%

Parents reported that their children on average received 10.7 hours of school support per week (see Figure 10). The most common support received was in the following ways: an autism specific setting (average 18.5 hours), the class teacher (average 12.8 hours), a teacher aide (average 11 hours), a special education based teacher at the school (average 9.7 hours), a visiting speech language pathologist (average 2.7 hours), an occupational therapist who visited the school (average 2.3 hours), and a visiting special education based teacher (average 1.8 hours). Other support parents described their child as receiving included: support from autism specific organisations, ABA therapists, and the parent providing support due to lack of funding and aide time available. Some parents stated they paid for the support provided to their child in the school environment. Many parents also paid for access to private therapy regularly. The amount of time per week their child received additional support ranged from nothing, 15 minute weekly check ins, to up to 35 hours per week of additional support.

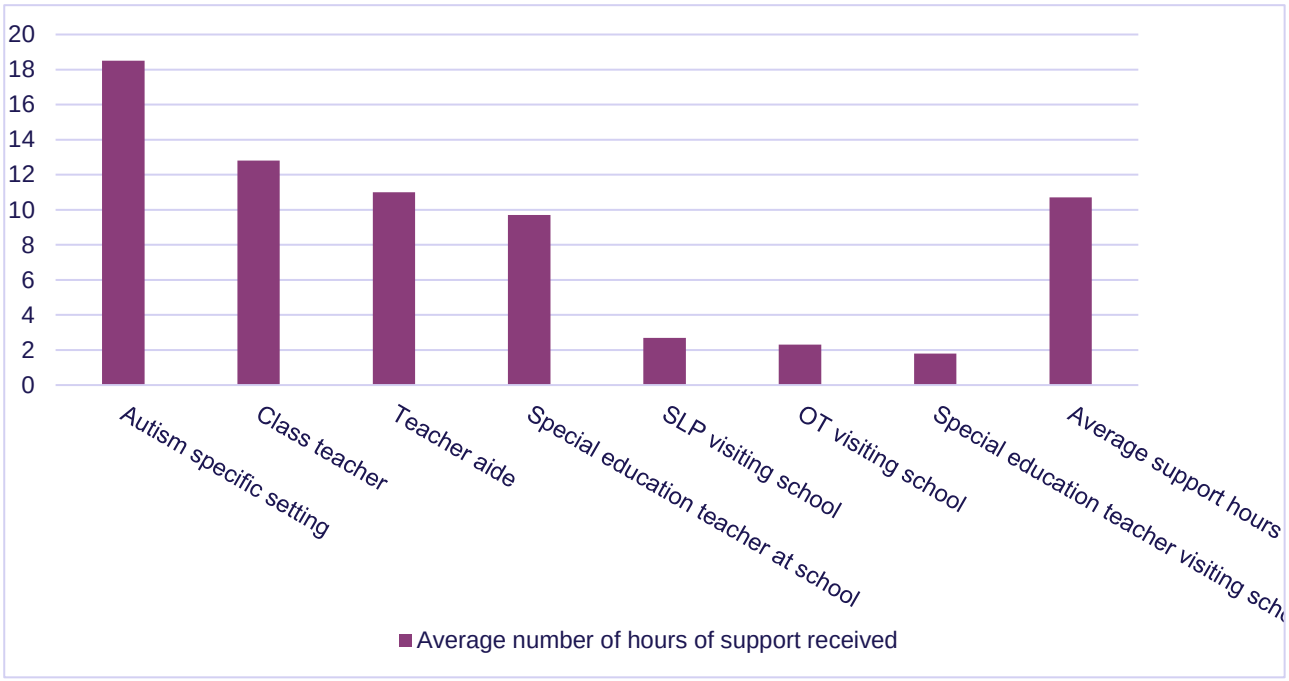

Figure 10. Type of support received and average number of hours.

3.2.3.6 Parent perceptions of educator confidence in supporting students on the spectrum

Parents were asked to rate on a 1-5 Likert scale (1 being strongly disagree, 3 being neither agree nor disagree, and 5 being strongly agree) how confident they were in relation to different statements about educators' ability to support their child and their needs (see Figure 11). In comparison to educators', on average, parents were less confident in the educators' abilities to support students on the spectrum. On average, most parents neither agreed nor disagreed that they felt confident in the educators' ability to support and teach students on the spectrum in school. In addition, on average, they neither agreed nor disagreed that they were confident in the educator's abilities to: a) find evidence based practices to support and teach students on the spectrum; b) evaluate evidence based practices and their application to meet the needs of students on the spectrum; and, c) apply these evidence based practices to students on the spectrum. They did, however, on average, demonstrate marginal confidence that educators were willing to be flexible to meet the needs of students on the spectrum. Overall, parents on average indicated they neither agreed nor disagreed that they were confident educators could support students on the spectrum.

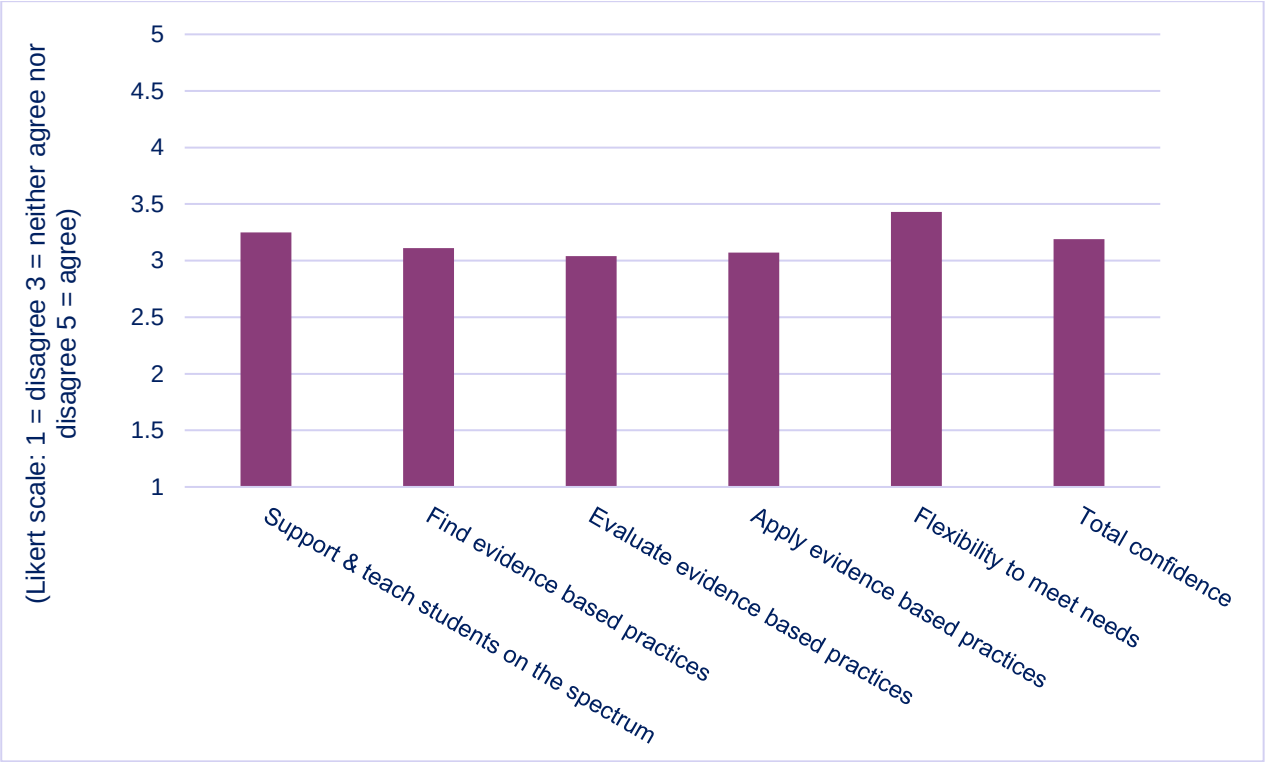

Figure 11: Parent perceptions of teacher confidence to support students on the spectrum

Demographic information was also collected on students diagnosed as being on the spectrum aged 11-18 years who completed the survey.

3.2.4 Student demographics

Of the 1,468 participants completing the survey, 107 (7.3%) indicated they were a student on the spectrum aged 11-18 years.

3.2.4.1 Student geographical location and school systems

Similar to the other participant groups, all the states of Australia were represented by students completing the survey except the Northern Territory (see Figure 12).

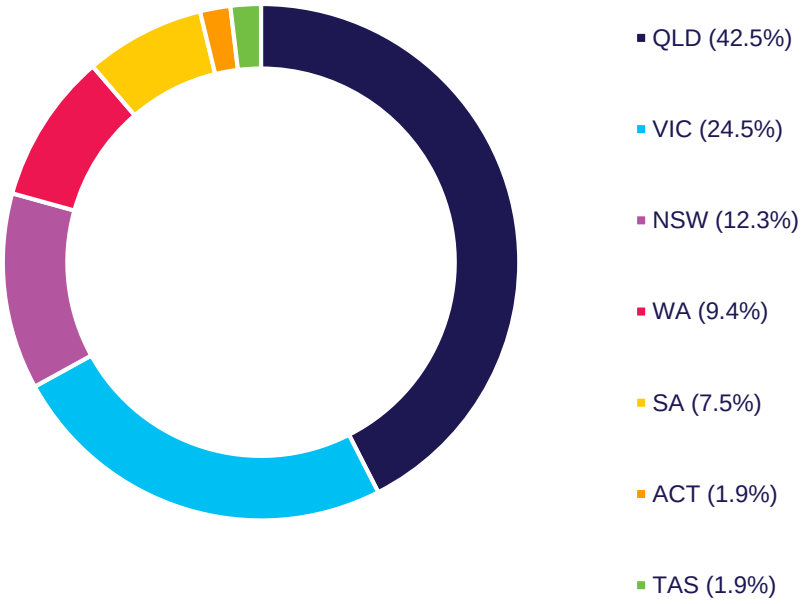

Figure 12: States of Australia represented by student participants.

Students attended school across a range of different education systems (see Figure 13 below for more information).

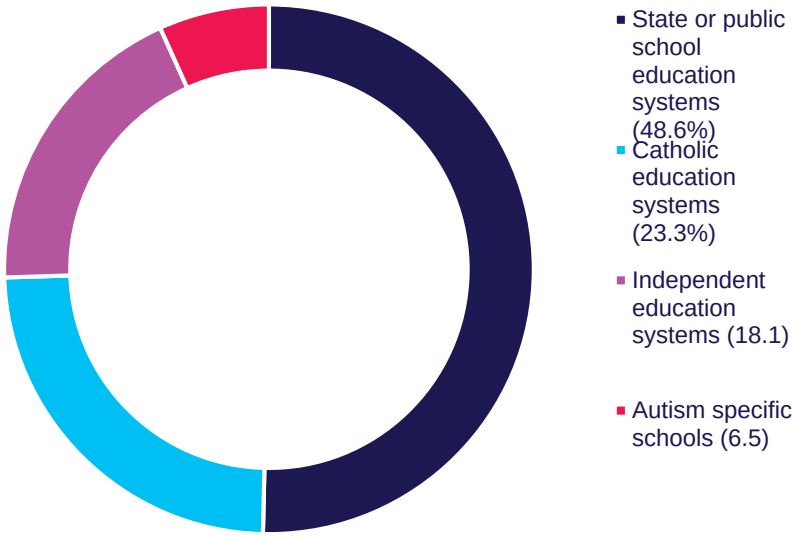

Figure 13: School systems attended by student participants.

Similar to other participant groups, the majority of students (57.4%) were from an Australian capital city. Students within a 2 hour drive of a capital city represented 24.3% of the student participant group. Representing regional cities with populations larger than 20,000 were 17.7% of the students surveyed. While students within a 2 hour drive of a regional city represented 8.4% of the cohort completing the student survey. The percentages of students within a 2 hour drive from a city (capital or regional) completing the student survey was 0.9% (see Table 17 for more information).

Table 17: Geographical Locations of Students on the Spectrum Completing the Survey

Students' geographical location	Percentage of student participants
Australian Capital City	
State government/public school education system	26.2%
Catholic education system	13.1%
Independent education system	7.8%
Autism specific school	4.7%
Special school	3.7%
Distance Education	1.9%
Within 2 hours drive of a capital city	
State government/public school education system	7.5%
Catholic education system	5.6%
Independent education system	6.5%
Autism specific school	0.9%
Special school	1.9%
Distance Education	1.9%
In a regional city with populations >20,000	
State government/public school education system	8.4%
Catholic education system	3.7%
Independent education system	1.9%
Autism specific school	0.9%
Special school	1.9%
Distance Education	0.9%
Within 2 hours of a regional city	
State government/public school education system	5.6%
Catholic education system	0.9%

Students' geographical location	Percentage of student participants
Independent education system	1.9%
Autism specific school	0.5%
Special school	1.8%
More than 2 hours drive from a city (capital or regional)	
State government/public school education system	7.8%
Catholic education system	9.5%
Independent education system	2.8%
Autism specific school	0.5%
Special school	1.1%

3.2.4.2 Types of schools and grade levels catered for

Students completing the survey attended schools catering for a range of different grade levels (see Figure 14). In comparison to the data collected from other participants, the majority of students attended schools catering for secondary aged students only (45.5%). Given that students completing the survey needed to be 11-18 years of age, this would account for the strong representation from secondary schools in the survey. Of the 107 students completing the survey, 14.8% attended primary schools. Of these students, 9.1% attended schools providing for students from pre-Year 1 to Year 7, with a further 5.7% attending schools catering for Year 1 to Year 7. An additional 23.9% indicated they attended schools that catered for both primary and secondary students. Within this cohort, 18.2% were in schools catering for pre-Year 1 to Year 12, while a further 5.7% were attending schools that educated Year 1 to Year 12. Some students (10.2%) were receiving special education support within a school setting, while 6.8% attended special school settings. A further 4.6% were enrolled in autism specific school settings, 5.7% were completing their education through distance education, 3.4% were home schooled, and 4.6% were in split placements.

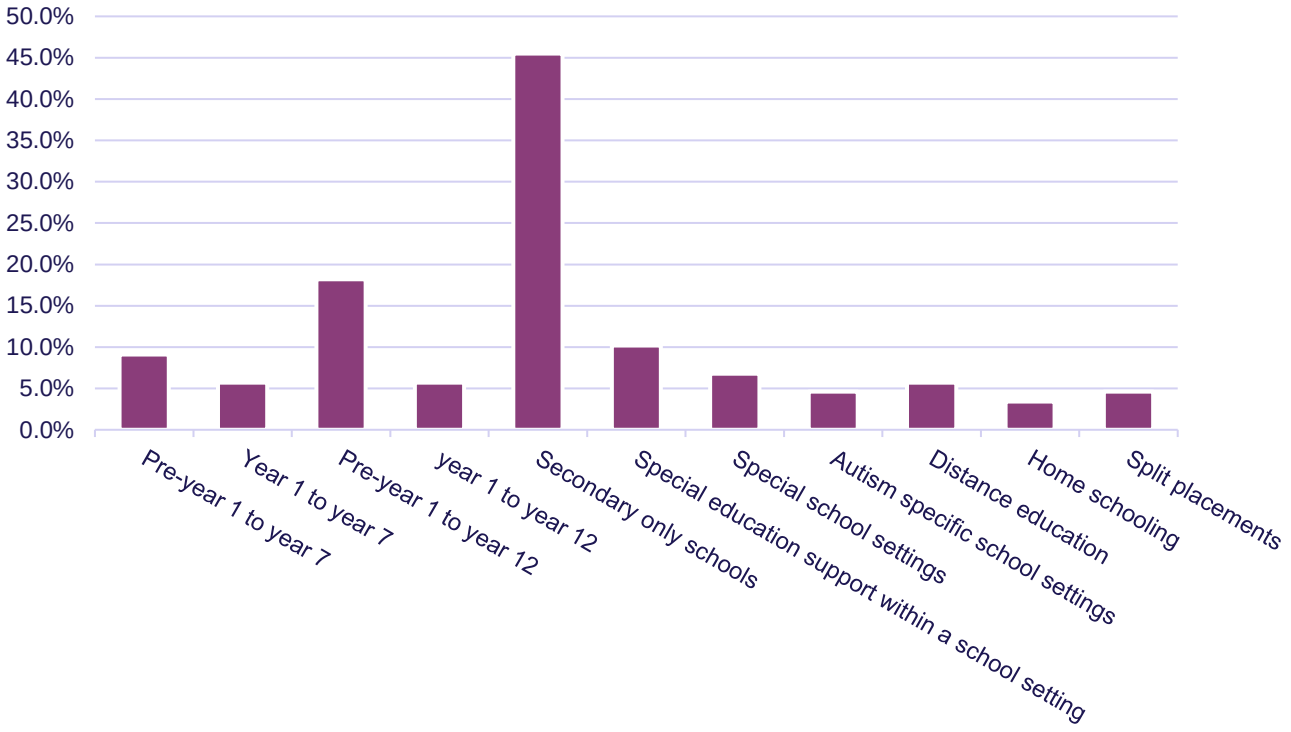

Figure 14: Types of schools and grade levels catered for in school settings students attended

3.2.4.3 Profiles of students on the spectrum

The majority of the students on the spectrum who completed the survey were male and ranged in age from 11-20 years with an average age of 15.3 years (see Figure 16). The most common age groups completing the survey were 15 years (16.8%), 16 years (16.8%) and 18 years (16.8%), followed by 14 years (15%), 13 years (10.3%), 12 years (8.4%) and 17 years (8.4%).

The least common age groups amongst students completing the survey were 19 years (4.7%), 11 years (1.9%) and a 20 year old (0.9%) (see Figure 15 and Table 18 for more detail).

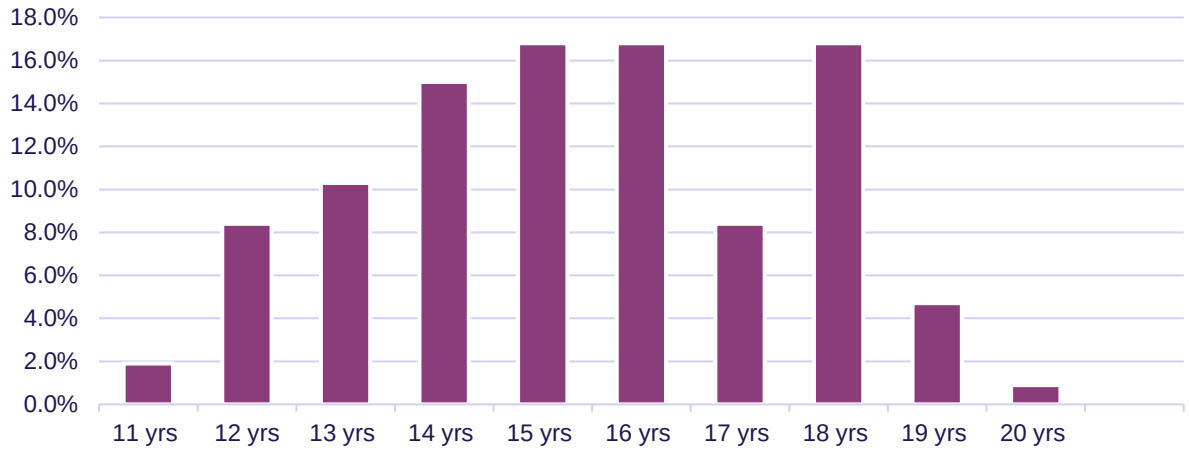

Figure 15: Age range of participants

Additionally, amongst student participants, 2.9% identified as being of Aboriginal and Torres Strait Islander descent, with a further 2.9% having English as a second language.

Table 18: Summary of Student Demographics

Student demographics	
ATSI	2.9%
ESL	2.9%
Mean age	15.3 years
Age range	11-20 years
Age	**Percent**
11	1.9%
12	8.4%
13	10.3%
14	15%
15	16.8%
16	16.8%
17	8.4%
18	16.8%
19	4.7%
20	0.9%
Diagnoses	**Percent**
Asperger's syndrome	41%
ASD	26%
Autism	15%
PDD-NOS	9%
Autistic disorder	5%
Asperger disorder	4%

The most common diagnosis amongst students completing the survey was Asperger's syndrome (41%), followed by ASD (26%), autism (15%) and Pervasive Developmental Disorder – Not Otherwise Specified (PDD-NOS) (9%). The two least recorded diagnoses were autistic disorder (5%) and Asperger disorder (4%) (see Figure 16).

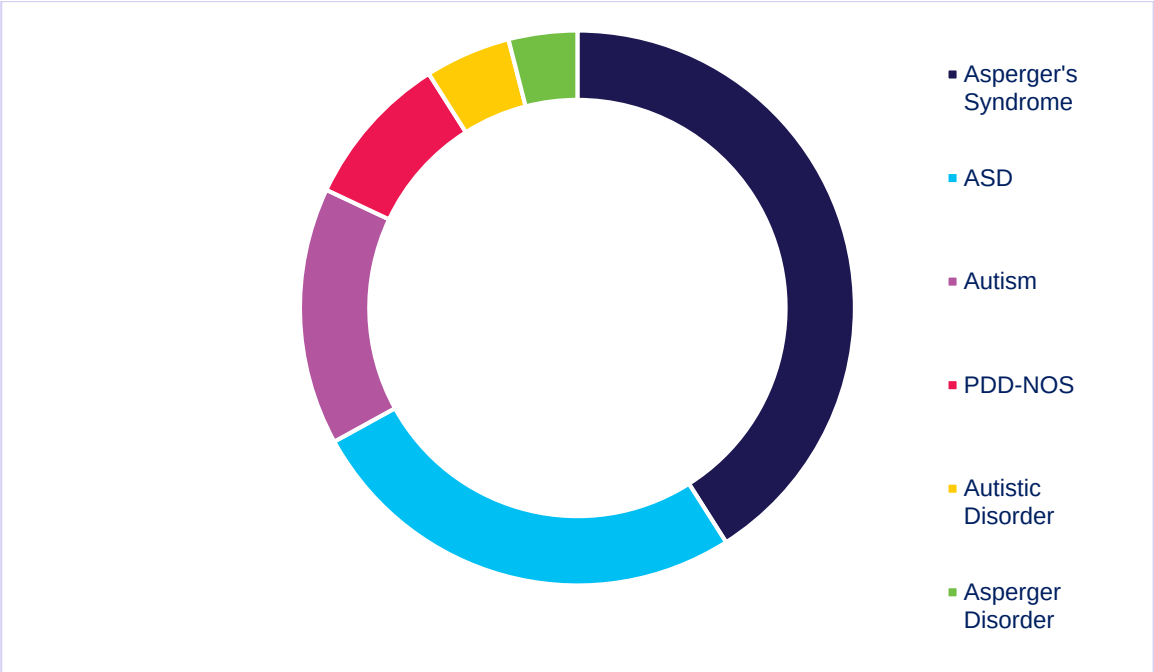

Figure 16: Diagnosis of student respondents.

3.2.4.4 Additional educational support options accessed by students on the spectrum

Students on the spectrum who completed the survey accessed a range of different educational support options (see Table 19). Similar to responses from other participant groups, the most common means of support was teacher aide support (52.3%). Other common supports included access to: in-class support (41.1%); learning support (36.4%); a specialist teacher (28.8%); social skill support (27.1%); and, a student counsellor (26.2%).

Table 19: Additional Educational Support Students on the Spectrum Accessed

Support	Student
Teacher aide support	52.3%
In-class support	41.1%
Learning support	36.4%
Specialist teacher	28.8%
Social skill support	27.1%
School counsellor	26.2%
Guidance officer	19.6%
Behaviour support	19.6%
Small group support	19.6%
one-to-one support	18.7%
Communication support	15%
Playground/lunchtime support	13.1%
Psychologist	12.1%
Advisory teacher	11.2%
Withdrawal support	11.2%
None of the above	9.3%
Speech language pathologist	6.5%
Occupational therapist	5.6%
Physiotherapist	1%

On average, the students who completed the survey received 8.3 hours of support per week in school unit of time. Similar to the parent reports, this support was described as coming from a range of sources (see Figure 17 for more information).

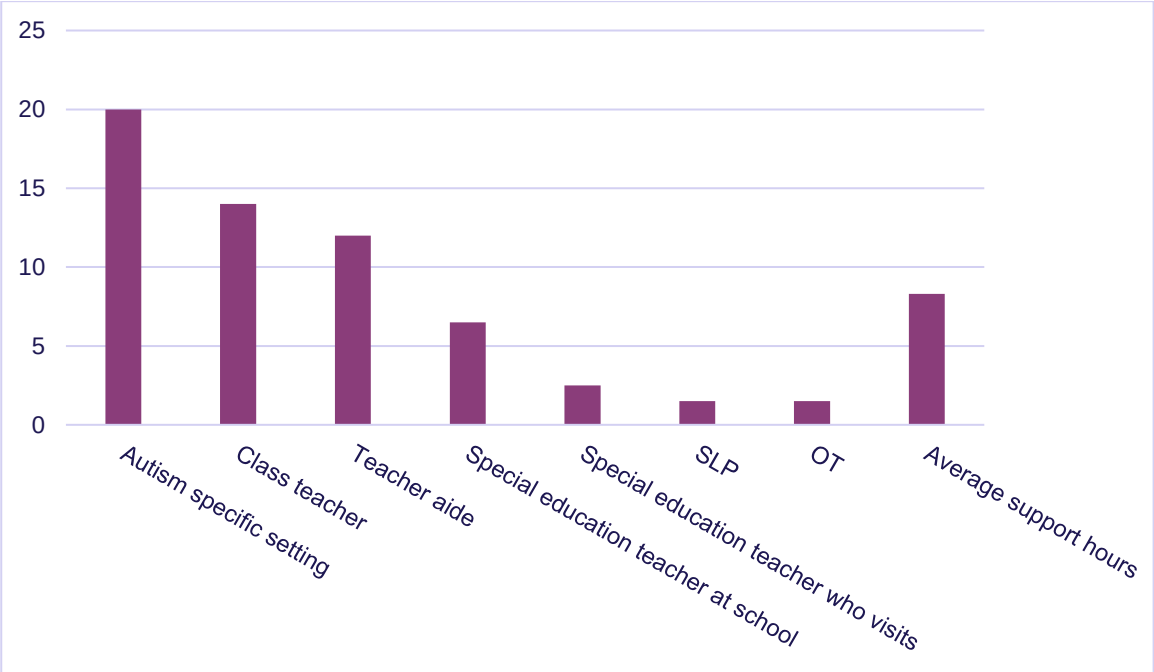

Figure 17: Type of support received by students and average number of hours.

3.3 PROFESSIONAL LEARNING

In the survey educators, specialists and parents were asked to respond to questions about the professional development and learning needs of key stakeholders in relation to developing knowledge about autism spectrum disorders and supporting the educational needs of students on the spectrum. The following section discusses parents', specialists' and educators' responses to these questions in more detail.

Figure 18 presents a summary of information about the highest level of education of parents, educators and specialist participants completing the survey.

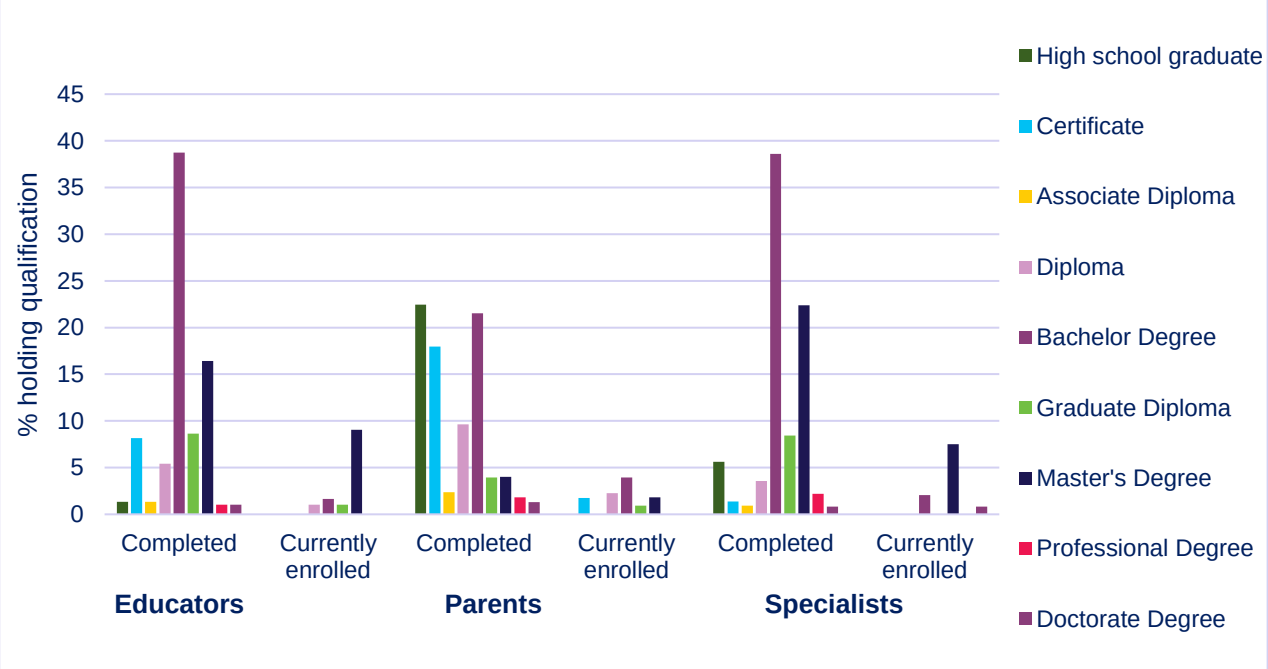

Figure 18: Highest level of education of educators, parents and specialists

3.3.1 Professional development

The large majority of educators (89%) and specialists (97.5%) had received professional learning or specific training related to students on the spectrum. In comparison, only 53.3% of parents were aware of educators who were working with their children having received or completed any specific professional learning in the area of autism.

Amongst educators, the top 5 most useful autism specific professional learning experiences they had participated in included: 1) personal experience raising a child on the spectrum; 2) attendance at an autism specific conference; 3) hands on experience; 4) support from colleagues in workplace; 5) post graduate study. In comparison, the top 5 most useful autism specific professional learning experiences specialists had experienced included: 1) hands on experience; 2) personal experience

raising a child on the spectrum; 3) attendance at an autism specific conference; 4) talking with parents; 5) support from colleagues in workplace.

In relation to PD that had not been accessed but was considered most helpful, educators suggested the top 5 most helpful PD opportunities include: 1) support from specialist staff; 2) the things you learned about autism in your qualifying degree; 3) informal professional learning; 4) support from colleagues in workplace; 5) consultant teachers modelling. In comparison, the top 5 most helpful PD opportunities suggested by specialists included: 1) talking with parents; 2) consultant teachers modelling; 3) support from specialist staff; 4) the things you learned about autism in your qualifying degree; 5) informal professional learning. Further details are outlined in Table 20.

Table 20: Top 5 Helpful Autism Specific Training Options Experienced by Educators and Specialists

Most helpful PD experienced				
	Educators		**Specialists**	
1	Personal experience raising a child on the spectrum	4.90	Hands on experience	4.74
2	Attendance at an autism specific conference	4.59	Personal experience raising a child on the spectrum	4.69
3	Hands on experience	4.57	Attendance at an autism specific conference	4.53
4	Support from colleagues in workplace	4.30	Talking with parents	4.50
5	Post graduate study	4.38	Support from colleagues in workplace	4.48
PD not accessed but considered most helpful				
	Educators		**Specialists**	
1	Support from specialist staff	4.25	Talking with parents	4.50
2	The things you learned about autism in your qualifying degree	4.24	Consultant teachers modelling	4.24
3	Informal professional learning	4.17	Support from specialist staff	4.22
4	Support from colleagues in workplace	4.14	The things you learned about autism in your qualifying degree	4.20
5	Consultant teachers modelling	4.10	Informal professional learning	4.20

In the survey, educators and specialists highlighted the preferred mode of their future professional development. There was a lot of similarity in the top five preferred modes of delivery for professional development of educators and specialists.

For educators, the top five modes of delivery for future professional development were:

1. face-to-face professional development from a professional organisation;
2. observation of others' practice (real life);
3. face-to-face seminars;
4. professional support methods (e.g., coaching); and,
5. observation of others' practice (online).

In comparison, specialists suggested similar modes of delivery but with slightly different priorities. The specialists preferred modes of delivery of future professional development included: 1) face-to-face professional development at a professional organisation; 2) face-to-face seminars; 3) observation of others' practice (real life); 4) professional support methods (e.g., coaching); and, 5) observation of others' practice (online). See Table 21 for a more detailed comparison of educators and specialists preferred modes of delivery of future professional development.

Table 21: Educators' and Specialists' Preferred Modes of Delivery of Future Professional Development

Future PD needs (1-5 SCALE 5=Most Preferred)				
1	Educators		Specialists	
	Face-to-face at professional organisation	4.3	Face-to-face at professional organisation	4.2
2	Observation of others' practice (real life)	4.2	Face-to-face seminar	4.2
3	Face-to-face seminar	4.1	Observation of others' practice (real life)	4.0
4	Professional support methods (coaching)	4.0	Professional support methods (coaching)	4.0
5	Observation of others' practice (online)	3.7	Observation of others' practice (online)	3.7

Furthermore, parents (30.5%), felt that the autism specific professional development educators and specialists had received was, for the most part, limited. In comparison, some parents (25.9%) felt that the autism specific professional development educators and specialists had received was high, while a further 16.3% of parents felt that it was very low. Additionally, 15.7% of parents perceived that the autism specific professional development educators and specialists had received was low while only 11.6% of parents perceived it as very high.

Moreover, parents perceived that educators and specialists commonly received most of their professional development in the following ways: practical experience (mean of 3.3); education organisation specific professional development (mean of 3.0); tertiary study (mean of 2.9); autism specific organisation training (mean of 2.8); professional organisation training (mean of 2.7); online courses (mean of 2.6); and, health organisation professional development (mean of 2.4) (see Table 22 for more information).

Table 22: Parents' Perceptions of Autism Specific PD Received by Educators and Specialists

Parents' perceptions of autism specific received by educators and specialists		Parents' perceptions of origin of PD educators and specialists most commonly received	
Very low to very high	Percent	Type of organisation	Mean
Neither high or low	30.5%	Practical experience	3.3
High	25.9%	Education organisation specific	3.0
Very low	16.3%	Tertiary study	2.9
Low	15.7%	Autism specific organisation	2.8
Very high	11.6%	Professional organisation	2.7
		Online courses	2.6
		Health organisation	2.4

From the qualitative data obtained from participants, further comments in relation to professional learning included issues with online training:

> *"Online has to be done in our own time, so am not fond of it"*

Having to access training overseas to obtain suitable training "Depends on the quality of the trainer – very few well experienced trainers in the area – we mostly seek outside of Australia for professional learning".

Another issue was the lack of educational experience of the professionals providing the training:

> *"The quality of the learning depends upon the expertise of the professional delivering – I have heard strange recommendations and advice from consultants including psychologists/therapists who do not work in schools and do not understand the educational context."*

Other issues related to the costs of professional learning:

> *"NOT having to pay for courses out of my own pocket ALL the time and having to do in my own 'spare time'. The cost has now become ridiculous and beyond my means so I no longer do it. Teachers are sick of paying for things from their own money, especially when courses and conferences are hundreds of dollars, so they've just stopped going – especially when they have to use up a sick day or take leave without pay to go if it happens to be on a school day.*

School Administrators will not fund the conferences nor will they give you the time off to go because they can't afford the cost of replacement teacher while you go."

Additional ideas educators and specialists provided for professional learning included: the creation autism professional teacher support groups to allow for the sharing of professional ideas; talking to parents and adults on the spectrum; visiting other schools to see different approaches; and, working in real time in partnerships with colleagues/team members.

3.3.1.1 Barriers to professional development

Parents, educators and specialists highlighted a number of possible barriers to the delivery of professional development with the top three barriers identified by all three participant groups being: lack of time, inadequate funding, and lack of suitable education and training to meet the needs of educators and specialists. A lack of suitable computers or equipment was rated as the lowest barrier to professional development as perceived by parents, educators and specialists.

Parents rated geographical problems as more of a barrier than educators and specialists themselves did (see Figure 19).

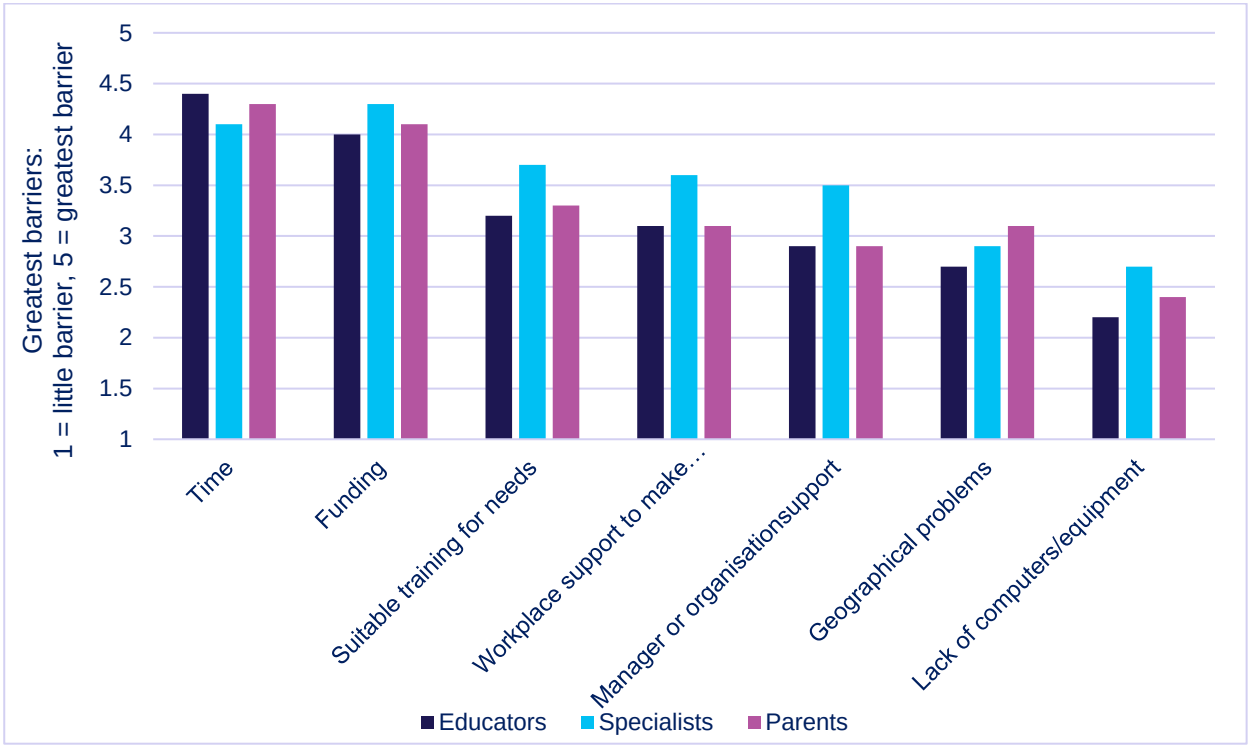

Figure 19: Barriers to professional development of educators and specialists.

Table 23: Groups Requiring More Education and Training in Autism as Reported by Educators, Specialists and Parents

Priorities for more education and training	Educators	Specialists	Parents
Principals	3.8	3.2	4.2
Deputy principals	4.0	4.1	4.2
Classroom teachers	4.7	4.7	4.8
Students	3.7	3.7	3.7
Teacher aides	4.6	4.6	4.5
Parents/carers	4.4	4.3	4.3
Child care workers	4.3	4.4	4.4
Occupational therapists	4.0	4.1	3.6
Physiotherapists	3.8	3.9	3.5
Speech language pathologists	4.1	4.2	3.7
General practitioners	4.8	4.3	4.8
Nurses	3.9	4.0	3.8
Psychologists	4.1	4.3	3.9
School career advisers	4.1	4.2	3.8
School chaplains	3.9	3.8	3.7
Youth workers	3.9	4.0	3.8
Canteen workers	3.5	3.3	3.4
Bus drivers	3.8	3.7	3.8

A number of educators and specialists also provided qualitative comments on who they felt should receive education and training about autism. Educators (16) and specialists (16) comments were coded into 6 key categories (see Table 24). The theme “Other” included politicians, lawyers, cleaners, bus drivers and general comments (e.g., no comment) while. “Community” included all parents and the wider community.

Table 24: Qualitative Themes Relating to Priorities for More Education and Training

Theme	Educator	Specialist	Total
Anyone in contact with students	7	0	7
All parents and community	3	4	7
Other teaching staff e.g. library, PE, OSHSC	2	2	4
Office and admin staff	2	0	2
Teachers	0	1	1
Other	4	6	10

Example quotes from participants about who should receive more education and training included:

> *"ALL of the school community so that the child is in a fully inclusive environment where EVERYONE has at least a basic understanding of the disability and how to cater for the needs rather than do something to set the child off into a meltdown and to also stop general ignorant judgment of both the child and their family."*

> *"General community advertisement would stop a lot of ignorance."*

Educators, specialists and parents strongly agreed in their responses about the stages in an educator's career that required the most education and training in autism. All three stakeholder groups agreed that educators in the early stages of their career (i.e., the first 1-3 years) were the highest priority for more education and training in autism. Parent and educator participants both agreed that the second priority for education and training were educators at the pre-entry or undergraduate level, with mid-career educators (4-10 years) as the third priority. In contrast, specialists suggested that mid- career educators (i.e., 4-10 years into their career) were the second priority, followed by educators with more than 10 years' experience as the third priority.

A visual representation of the career stages of educators that were perceived by educators, specialists and parents as being a priority for more professional learning in autism is provided in Figure 20.

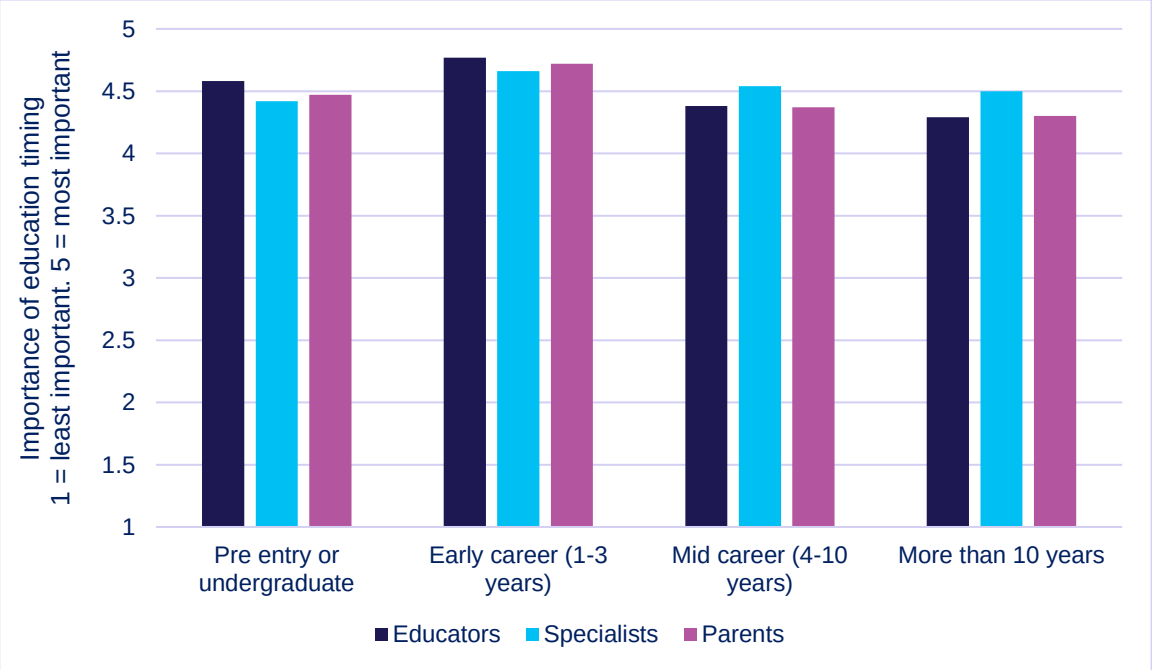

Figure 20: Educator career stages perceived as a priority for more professional learning

Additional qualitative comments in the surveys provided support for the ongoing nature of professional development when working with students on the spectrum as well as the need for this to be a high priority for all staff at all levels of experience. Qualitative comments from educators (16) and specialists (16) were coded into 3 main categories (see Table 25).

Table 25: Qualitative Themes Highlighting Stages of Educator's Careers Requiring Professional Learning

Theme	Educator	Specialist	Total
Ongoing throughout career	24	27	51
▪ *"As each child is different, the needs of the educator are always changing. There is always something else you need to learn."* ▪ *"What information about ASD that was available and relevant over 10 years ago may not be relevant now, so more experienced teachers also need continuing and updated information and particularly research about ASD"* ▪ *"ASD training should be included as part of ongoing PD particularly following the inclusion agenda."*			
Preservice and early career	*4*	3	7
▪ *"All educators should have training during under-graduate stage as they can use the knowledge and understanding to support all students. ASD training is ongoing, educators need to continue refreshing their skills and knowledge to maintain currency, best practice and new research."*			
Other	9	5	14
▪ *"The increasing prevalence of people with ASD in our community makes it a priority for education and training to ensure that our teachers understand the nature of ASD and how best to support them. The research is growing and teachers with experience need to keep abreast of new developments."*			

Table 26: Suggested Future Professional Development Topics to Enhance Educator and Specialist support

Theme	Educator	Specialist	Total
How to support students with specific needs e.g. sensory, anxiety	26	28	54
▪ "Anxiety and ASD Depression and AS" "Sensory Disengagement in learning" ▪ "How to detect signs that an ASD child is highly anxious and understanding the triggers. Strategies to employ with highly anxious students with ASD." ▪ "More on working with girls on the autism spectrum and how their profile can differ so greatly." "Auslan signing course, basic language/linguist course and OT methods. Perhaps a course in allied health focusing on occupational therapy and speech practices"			
Social, communication and life skills	14	20	34
▪ "Employment - coping with employment and UNEMPLOYMENT." ▪ "FOCUS ON POST SCHOOL EDUCATION-ESPECIALLY IN THE VET SECTOR" ▪ "Communication supports to enhance programs. Programs designed to work with the recognition of emotions in the individual and those around them Programs designed to enhance social connections in the yard Programs to enhance work experience program"			
Behaviour management	19	12	31
▪ "How to handle violent and aggressive behaviours in the classroom and on the playground. REAL, PRACTICAL strategies, not airy-fairy waffle."			
Curriculum and pedagogy	8	12	20
▪ "Teaching pre-preps literacy skills- phonics, numeracy skills- numbers- counting, communication boards, behaviour management for students with ODD as well as ASD" ▪ "Teaching & planning to new C2C (especially adapting and differentiating techniques & resources to enable this to individualize to meet intellectually impaired ASD students individual needs) Teaching reading and comprehension to intellectually impaired ASD students especially literal thinkers & resources."			
Working with reluctant educators	1	8	9
▪ "Guiding an unwilling and resistant school" ▪ "How to influence teacher perceptions & school ethos re ASD, interagency service directories"" Ways to overcome school executive team based barriers/resistance to school-wide PBS & other whole school approaches"			
Supporting parents	4	5	9
▪ "What to do with non-diagnosed students and parents (mainly due to difficulty in accessing paediatricians in rural areas) who have the diagnosis and refuse to provide this to schools or just don't ever get around to providing the paperwork."			
Collaborative learning	3	4	7
▪ "Short placements for psychologists and teachers in ASD specific schools would be useful."			
Using technology	3	3	6
▪ "Handwriting vs Technology in the classroom"			
Creating an inclusive class	3	3	6
▪ "How to enable high functioning students with ASD to reach their potential in a classroom setting"			
Other	21	10	31
▪ "What to do with non-diagnosed students and parents (mainly due to difficulty in accessing paediatricians in rural areas) who have the diagnosis and refuse to provide this to schools or just don't ever get around to providing the paperwork."			

3.4 WHOLE SCHOOL APPROACHES

The Australian Advisory Board on Autism Spectrum Disorders' (2010) position statement on educational services for school-aged Australian children and adolescents on the spectrum provides eight guiding principles they recommend should govern their educational services. Based on these guiding principles, parents were asked to indicate on a 1-5 point scale (1 = strongly disagree and 5 = strongly agree) how much they agreed schools were following some of these governing principles in their whole school approaches to meeting the needs of students on the spectrum. This information is now discussed in more detail.

On average, parents did not rate highly the whole school approaches experienced by their children in schools. Overall, parents on average only slightly agreed that the school: a) took reasonable steps to ensure that students on the spectrum can access the same or comparable opportunities and choices on the same basis as those offered to a student without a disability; b) processed enrolments in a timely manner following an application from students on the spectrum; c) provided services that adequately and effectively incorporate family involvement; and, d) was responsive to the needs of all students across the autism spectrum, providing a range of services that were flexible to students' needs, regardless of their age or level of functioning.

Furthermore, on average, parents somewhat disagreed that the school: a) provided additional teacher education and training to improve their capacity to cater for their child and all students on the spectrum; and, b) provided services that addressed all the specific needs of their child on the spectrum (e.g., communication, social skills, learning, sensory issues, behaviour and transitions) (Table 27 provides more information).

Table 27: Parent Perceptions of Whole School Approaches to Meet/Address their Child's Needs

Whole school approaches	Mean parent score (Scale 1-5) 1 = strongly disagree, 5 = strongly agree
The school takes reasonable steps to ensure that students on the spectrum can access the same or comparable opportunities and choices on the same basis as those offered to a student without a disability.	3.54
Following an application from students on the spectrum, enrolments proceed in a timely manner.	3.48
The services the school provides adequately and effectively incorporate family involvement.	3.21
The school is responsive to the needs of all students across the autism spectrum, providing a range of services that is flexible to students' needs, regardless of their age or level of functioning.	3.20
The school provides additional teacher education and training to improve their capacity to cater for my child and all students on the spectrum.	2.90
The services the school provides address all the specific needs of my child on the spectrum (e.g., communication, social skills, learning, sensory issues, behaviour and transitions).	2.85

Parents were also asked to provide examples of the services the school provided that adequately and effectively incorporated family involvement. The comments ranged widely from comments from parents who could not provide examples of the school encouraging family involvement, comments suggesting the school was perceived as actively discouraging family involvement, and other examples where it was felt the schools were implementing strategies that positively and effectively incorporated family involvement into the school context. Table 28 provides a summary of 10 key themes that emerged from the qualitative data from parents (292) comments. These highlight how family involvement occurs in schools and how it may be perceived as supportive or discouraging to family involvement in the school context. Although this question asked for examples of effective communication or involvement, many of the comments provided examples of ineffective or inadequate family involvement for example, insufficient meetings.

Table 28: Themes Generated By Parents Regarding Family Involvement in School

Theme and Sample Quotes	Number of comments reflecting theme
Meetings and IEPs	89
• "Regular meetings between Program Support, year level coordinator, the aides, the student, and parent" • "As a parent I am invited to attend IEPs and have opportunity to communicate with the principal and teachers. However, we don't have anything more than that." • "We have been completely involved in the IEP process this year and adjustments explained and benchmarks moved as he progresses in the smaller classroom environment. We are given official quarterly updates on progress he is making and I speak to his teachers on a 2-3 times a week basis."	
Discourage or minimal involvement	62
• "I am sorry there is none at my son's school they never communicate with me about my son's progress." • "Top down approach complete lack of interest in providing support to student or parent or class teacher" • "We are asked to be involved in an IEP, the Catholic education system has announced that these will only be conducted once a year regardless of whether parents wish to have further input into the education needs of their children. There is a lot of "Words not meeting actions" - in other words, lip service is payed and there are a lot of excuses or reasons why needs cannot be met - not enough funding; not enough time; not enough money to pay for staff to spend the amount of time children need with a teacher's aide for further support in the classroom...the list goes on... Attempting to raise awareness within the school is not looked upon favourably and indeed it feels like it is discouraged. Raising the social isolation families experience from other families within the school is also something the school does not seem to want to hear."	
Other	50
• "Family bbq meet and greets" • "Open and honest communication regularly throughout the year detailing programs and progress our child is making" • "The school is a great school that is on an awful learning curve. They have their hands tied" • "S broke his tablet, and became seriously impaired, and couldn't get out of bed. We were able to finally coax him out of bed, and I called his support teacher. He knew that if things were too hard he could always rest in the support centre all day. The support teacher met us in the office, sat and reassured S, arranged for another tablet for a loan, and helped S throughout the day. By the end of the day S was in normal classes."	
Parents welcome at school including events	41
• "My child has access to 'beehive' which is special needs room. When I visit I am made to feel welcome and am provided with time and resources to better help my child's journey through school." • "At all times, everything related to our sons educational needs, activities, including ASD specific needs and activities are fully discussed with us as parents. We are encouraged to have input into, and participate in where appropriate, his education and activities he is involved in at the educational facility."	
Regular contact with teachers	39
• "We have one teacher who communicates regularly and effectively. When he is absent the system falls down. The school does not adequately provide for my ASD son" • "Teacher feedback on a regular basis. I believe the school is doing their best and they would like to provide more but there is a serious lack of funding" • "We have been completely involved in the IEP process this year and adjustments explained and benchmarks moved as he progresses in the smaller classroom environment. We are given official quarterly updates on progress he is making and I speak to his teachers on a 2-3 times a week basis." • "As mentioned before my experience with my school has been great and I have a teacher who understands. There are other mums who are not so happy and have teachers who don't care." • "Depends on the teacher. In previous year the teacher was able to provide personal email and welcomed regular contact, however current teacher, while very effective, doesn't encourage parental participation unless there is a problem."	
Emails and phone calls and communication	33

Theme and Sample Quotes	Number of comments reflecting theme
• "Depends on the teacher. In previous year the teacher was able to provide personal email and welcomed regular contact, however current teacher, while very effective, doesn't encourage parental participation unless there is a problem.	
Support groups	11
• "Our school provides a Pupil Support Group meeting once per term"	
Parent initiated	10
• "School is responsive to me initiating a meeting about my child's needs (however I would prefer it if I did not have to be the one who set it up & to always feel I have to push for things!)"	
Disciplinary processes	4
• "The only time we seem to have "family involvement" is when we're sitting in the office AFTER my ASD child has been suspended. The suspension always pertaining to ASD behaviours."	
Importance of follow up	3
• "We have meetings to discuss our daughter although they never follow through. I now bring her work books home as she is unable to finish them in class in a timely manner so now we finish these at home so she keeps up with her classroom."	

Examples of the types of activities that parents' perceived influenced family involvement in the school context are highlighted in Table 29 below.

Table 29: Parents' Perceptions of Strategies that Influence Family Involvement in the School Context

Strategies perceived by parents as discouraging family involvement in the school context	Strategies perceived by parents as effectively encouraging family involvement in the school context
▪ Meetings dominated by school staff with limited opportunity for family feedback.	▪ Official monthly minuted parent support group meetings with a range of school staff providing up to date information on strategies, progress and issues.
▪ Lack of services and support.	▪ Six-monthly meetings about child progress and to set educational goals. Regular goal setting for child.
▪ Isolated from school community.	▪ Regular communication with classroom teacher.
▪ Irregular meetings with family.	▪ Open, consultative, supportive of parent input and suggestions.
▪ Actively discouraging enrolment out of catchment.	▪ Open and easy email communication.
▪ Removal of supports within the school environment.	▪ Regular open and honest communication about child support needs.
▪ Lack of briefing to classroom teachers of needs of students on the spectrum.	▪ Pupil support group meetings once per term.
▪ Lack of liaison with family around support needs and alternative assessment.	▪ Strength based wraparound multi-disciplinary meetings including health services and family.
▪ Lack of communication with family.	▪ Easy access by phone, email or face-to-face with key people in school environment.
▪ Lack of funding.	▪ Extra help and support for student with assessment.
▪ Only contact related to behaviour and suspension.	▪ Monthly parent coffee mornings.
▪ Only parent initiated contact.	▪ Parent/student/teacher interviews.
	▪ Parent support groups.
	▪ Parent training sessions.
	▪ Regular meetings and liaison between parents and school staff.
	▪ Parents welcome and actively encouraged to participate in school based activities.
	▪ Regular IEP meetings.
	▪ Reading groups.
	▪ Parent training (e.g., reading strategies).
	▪ School responsive to parent initiating a meeting.
	▪ Multi-disciplinary support with home issues.
	▪ Support for wellbeing and social support for child.
	▪ Open door policy.
	▪ Access to both mainstream and withdrawal settings within the school environment.
	▪ Regular feedback.
	▪ Positive approach to behaviour.

3.5 EFFECTIVE PROGRAMMING, TEACHERS, CLASSROOMS AND SCHOOLS

3.5.1 Type of programming best suited to students on the spectrum

As part of the needs analysis survey educator, specialist and parent participants were asked to discuss what type of programming they felt best suited students on the spectrum. Participant comments were commonly linked to 13 key themes. Educators (86), parents (419) and specialists (92) comments were coded and the key themes that were generated and sample participant quotes are provided in Table 30 below (Note: All names used in this report are pseudonyms).

Table 30: Types of Programming Best Suited to Students on the Spectrum

Theme		Specialist	Parent	Educator	Total
Utilise technology and resources		8	123	6	137
Sample Quote	▪ "Laptop or tablet device with supportive apps and programs that provide extra assistance with tasks – extra explanations and guides on how to break down the task to help him categorise it."				
Support in mainstream classes		14	52	21	87
Sample Quotes	▪ "Mainstream class with capacity to individualise all aspects of learning and sufficient staff, technology and outside support to do this." ▪ "A structured one that is flexible to move and grow with the child" ▪ "Inclusive BUT MUST BE BACKED UP WITH ADEQUATE LEVELS OF STAFF!!!!"				
Assessments and planning based on individual needs		28	22	27	77
Sample Quotes	▪ ASD is such a broad spectrum that I don't think there are any general solutions. ▪ Perhaps if I said that each child needs to be considered individually so the programme they need and the place to deliver it should also be considered individually. I have worked with ASD students who functioned well in mainstream and with others who couldn't last an hour in such a situation. Some ASD students are intellectually very capable and some have severe intellectual impairment. It's horses for courses."				
Differentiation and adjustments		12	44	11	67
Sample Quotes	▪ "Adjusting the curriculum and assessment to suit his needs. Adjusting communication techniques – using visual prompts and guides for schedules and starting and finishing activities and work. Giving examples of a finished product so he knows what he should be doing." ▪ "Differentiated lessons to meet their specific needs and link all learning to their areas of interest." ▪ "Customisation, small class sizes, 1-1 support, additional support in the playground or other unstructured times" ▪ "Modified curriculum and adjustments as needed" ▪ "Extension activities to cater for giftedness and special interests" ▪ "Post school options and transitions"				

Theme		Specialist	Parent	Educator	Total
Social support		17	33	3	53
Sample Quotes	▪ "Social interaction. Help to organise and stay on task. More academic support so he can progress" ▪ "Positive behaviour support program that incorporates social skills training."				
Staff training		9	15	6	30
Sample Quote	▪ "Teachers trained in understanding ASD"				
Multidisciplinary approach		12	13	2	27
Sample Quotes	▪ "All comprehensive multi-disciplinary approach – including access and support to OTs, PTs, associations such as Autism Queensland. Classroom teachers are being overwhelmed not by the child with ASD but the huge numbers of children with ASD. As these students pass through the school the impact of their needs is reduced in proportion to the amount of support and care and respect that the previous teachers provided." ▪ "Autism-specific planning and learning experiences. Family-school partnerships. Must be person-centred approach" ▪ "Multidisciplinary – involving speech therapist, OT, special ed teacher and classroom teacher"				
Flexible program		5	17	4	26
Sample Quotes	▪ "A program that has the capacity to adjust and change depending on the needs of the student. Acceptance and a willingness to adapt are the major ingredients. We all have the right to be included and we all have the right to be treated in such a way that allows us to succeed." ▪ "A range from mainstream education settings to specialised smaller settings dependent on the needs of the child" ▪ "Continued support that changes when needs arise"				
Hands on learning		4	19	3	26
Sample Quote	▪ "Life skills. Hands on learning"				
Support schools and programs		1	20	5	26
Sample Quotes	▪ "Advisory teachers. Guidance officers" ▪ "A mainstream school with a special education program that includes a HOSES" ▪ "A specialist setting where there are specific rooms that are for high functioning students, where they can participate in mainstream schooling, but in much smaller groups, and with the behavioural/emotional support so desperately required. These kids do not have anywhere to learn to their full potential – the mainstream system is not suitable to them because of the level of their ASD, however the Autism specific setting cannot meet their intellectual and academic requirements. They flounder in either setting, and neither setting is set up to appropriately educate these children." ▪ "1-1- support programs are useful as a resource however it needs to be adjusted to the needs of an individual"				
Routines and consistency		3	9	10	22
Sample Quotes	▪ "Strengths structured focusing on individual's strengths and life skills." ▪ "Structured TEACCHing approach within a PBS framework."				
Small class size		3	14	1	18
Sample Quote	▪ Some 1:1, some small group, some whole class. Explicit teaching of behaviours."				

3.5.2 Effective classroom teachers for students on the spectrum

Participants were also asked to describe the characteristics of an effective classroom teacher that they felt were most important when teaching students on the spectrum. Nine key themes were generated that describe the characteristics of an effective classroom teacher for students on the spectrum. These are presented in Table 31 below.

Table 31 Characteristics of Effective Classroom Teachers

Theme	Specialist	Parent	Educator	Total
Positive, patient and caring	41	224	48	313
Knowledgeable about autism	23	130	24	177
Able to differentiate	32	91	31	154
Flexible	26	64	17	107
Establishes consistent rules and routines	24	43	18	85
Know and value individual students	14	27	13	54
Effective communicator	7	35	4	46
Meets sensory needs of students	13	21	4	38
Other	3	20	7	30

3.5.3 Classrooms or teacher practice allowing for successful learning outcomes for students on the spectrum

Additionally, specialists were asked what classroom and teacher practices allowed for more effective learning outcomes for students on the spectrum. Specialists' comments (86) were coded into 5 main themes and are presented in Table 32 below.

Table 32: Classroom and Teacher Practice Which Allow for More Effective Learning Outcomes

Theme	Specialist
Clear consistent rules routines and organisation	26
Knowledgeable teachers	20
Caring positive teachers	17
Other	17
Positive relationships	16

3.5.4 Ideal classroom

Similarly, when participants were asked what they considered the ideal classroom for students on the spectrum consisted of, they described a range of characteristics that were present in

classrooms students on the spectrum accessed. These classroom characteristics are presented across 8 themes in Table 33.

Table 33: Characteristics of the Ideal Classroom for Student

Theme	Specialist	Parent	Educator	Total
Calm, sensory classroom	47 (26.3%)	226 (24.2%)	52	325
Smaller class sizes	16 (8.9%)	133 (14.2%)	14	163
Routines and organisation	26 (14.5%)	53 (5.7%)	30	109
Trained and supported teacher	2 (1.1%)	36 (3.9%)	11	49
Safe and accepting	6 (3.4%)	14 (1.5%)	13	33
Other	2 (1.1%)	24 (2.6%)	4	30
Differentiation and pedagogy	11 (6.1%)	4 (0.4%)	12	27
Technology available	5 (2.8%)	12 (1.3%)	4	21

3.5.5 Effective schools

Participants' perceptions of the characteristics of effective schools included a focus on flexibility, acceptance, additional specialised and individualised support, and a welcoming community. The key characteristics of effective schools for students on the spectrum are presented in more detail in Table 34 across 12 main themes.

Table 34: Characteristics of Effective Schools

Theme	Specialist	Parent	Educator	Total
Individual support	30	78	33	141
Positive and accepting culture	18	94	21	133
Well trained staff	9	84	9	102
Equipped to meets sensory needs	14	45	17	76
Small classes or school	14	49	9	72
Other	5	57	4	66
Differentiated curriculum	14	34	11	59
Consistent structures and routines	12	25	11	48
Works with parents	6	36	5	47
Whole school approach	8	26	6	40
Specialist or multidisciplinary support	4	16	8	28
Social support	6	16	2	24

3.6 NEEDS OF STUDENTS ON THE SPECTRUM WHICH INFLUENCE THEIR LEARNING, PARTICIPATION AND ENGAGEMENT IN EDUCATION

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 sections outline the educators', specialists' and parents' perspectives of a range of needs of school aged students on the spectrum which may influence their learning, participation and engagement.

3.6.1 School 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. There was unanimous agreement across all three participant groups in relation to what these characteristics were. These results are outlined in Table 35. Interestingly, on average, it was the social emotional needs of students on the spectrum that all three participant groups identified 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 35: 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	Educator	Specialist	Parent
1	Social/emotional	4.72	4.51	4.63
2	Behavioural	4.66	4.33	4.49
3	Communication	4.48	4.31	4.40
4	Sensory	4.29	4.26	4.30
5	Academic/learning	4.06	4.09	3.87

These results highlight that compared with the academic and learning needs of students on the spectrum, there are other characteristics such as the social emotional and behavioural needs that play a far more significant role in educational settings and may have a more significant impact on learning and participation. As a result, it is clearly evident that in comparison to academic and learning needs, it is the diagnostic characteristics of the spectrum that require the highest level of

support, assistance, adjustment and accommodation to successfully meet their needs in schools. These characteristics may in turn influence academic learning.

When participants were asked to provide any additional comments on those characteristics that have the most impact on learning, a number of participants (educators (18), parents (59), and specialists (20) provided additional comments. These comments were coded into the following 8 thematic categories (see Table 34). Overall these comments suggested that there was an acknowledgement across each of the respondent groups that adjustments, strategies and accommodation varied greatly according to factors such as individual student age, diagnosis and need. A number of respondents acknowledged that the autism spectrum is wide and greatly impacts the level and kind of support required. Additionally, behavioural and social supports, as well as life skills were described by all respondents as requiring particular attention. This included communication and social skills as well as life skills such as toileting, eating and other self-care skills. This then also included comments around the need to support students' organisational skills. While anxiety was most commonly described by parents as being significant to learning, and required careful accommodation and adjustments. Comments about academic support were primarily made by parents, with only one specialist commenting that poor academic support in the classroom often resulted from mismanagement of students' behavioural and social needs. Parent comments (8) indicated that some parents are concerned about a lack of academic rigour or challenge. For example:

> *"My daughter is intellectually gifted as well as having an ASD - one of the great challenges I find is that a focus on "needs" or problems can limit a focus on her strengths, and her very real need to be intellectually challenged. This is obviously difficult in a classroom where my daughter doesn't always show her strengths."*

A number of respondents described that the characteristics requiring support were interrelated and therefore were all equally important. This theme also included a range of other comments that did not fit into themes described here (e.g., "Not just trying to 'fix' them"). While some respondents described the need for whole-school strategies that include playground and lunchtime support as well-trained teachers working in multi-disciplinary teams with specialists. The importance of ensuring sensory needs are met (e.g., quiet, calm classrooms) in order to ensure better academic outcomes and reduced anxiety was also described and having well trained teachers who are able to support student needs.

For example one parent said that:

"My child could not cope in a mainstream classroom, and pretty much spent the entire year in the store room because he was "too disruptive" to the rest of the class. However, in a supportive environment with staff that know what they are doing (he attends a Special School) he is thriving."

Table 36: Characteristics That Have the Most Impact on Learning

Theme	Specialist	Parent	Educator	Total
Strategies depend on individual students	8	13	7	28
Behaviour, social support and life skills	9	9	5	23
Anxiety	1	9	3	13
All or other	2	11	3	16
Academic support	1	8	0	9
Holistic approach needed	1	6	2	9
Sensory needs	3	6	0	9
Teacher support	0	6	0	6

3.6.2 Students on the spectrum and their learning needs

Educator, parent and specialist participants were asked to comment on the supports that were commonly implemented to meet the learning needs of students on the spectrum. They were also asked to describe other supports that may be useful, along with perceived barriers to the learning needs of students on the spectrum being met.

Participants were provided with the opportunity to highlight differences in adjustments made to cater for differing cognitive ability of students on the spectrum. Differentiation rated highly as an adjustment across all cognitive levels, while extension was noted as essential for students demonstrating academic giftedness. Further details of the themes that emerged can be found in Table 37.

Table 37: Adjustments and Supports Required for Students on the Spectrum of Different Cognitive Ability

Students on the Spectrum and Intellectual Disability			
Theme	**Specialists**	**Educators**	**Total**
Curriculum adjustments and differentiation	32	30	62
Individual support including support staff	19	31	50
Other	17	20	37
Trained staff	2	6	8
Social support	4	2	6
Students on the Spectrum and Average Cognitive Functioning			
Theme	**Specialists**	**Educators**	**Total**
Individual support including specialists	9	20	29
Differentiation	14	13	27
Social support	17	6	23
Other	8	14	22
Sensory & behavioural needs	12	9	21
Trained staff	2	4	6
Students on the Spectrum who are Academically Gifted			
Theme	**Specialists**	**Educators**	**Total**
Differentiation and extension	23	27	50
Individual support	6	6	12
Other	20	19	39
Social support	21	11	32
Time e.g. for planning	1	4	5
Training	3	8	11
Students Who Are Across the Spectrum			
Theme	**Specialist**	**Educator**	**Total**
Differentiation	8	8	16
Individual support	10	18	28
Other	15	22	37
Social support	12	4	16
Training	1	5	6
Students on the Spectrum and Other Comorbid Conditions			
Theme	**Specialist**	**Educator**	**Total**
Differentiation and adjustments	4	4	8
Individual support	3	7	10
Other	9	13	22

According to the participants (educators (90), specialists (77) and parents (352)) key strategies that are commonly implemented to support the learning needs of students on the spectrum could be coded under 8 key themes including: 1) individual and group support, 2) modify pedagogy, curriculum and assessment, 3) technology access, 4) additional time, 5) sensory modifications and support, 6) individual planning, 7) specialist support and 8) other (see Table 38).

Table 38: Common Strategies Used to Support the Learning Needs of Students on the Spectrum

Theme	Specialist	Parent	Educator	Total
Individual and small group support	22	135	22	179
• "Teacher aid reads the questions to assist with comprehension, can hand write for student in the case of fatigue mental and physical" (Educator) • "Teacher aide time and modified work" (Parent)				
Modify pedagogy, curriculum and assessment	30	68	61	159
• "Information in diagrams and tables (logical) rather than extended texts" (Educator) • "Scaffolding, differentiated curriculum and assessment, small group learning and peer support." (Educator)				
Technology access	8	52	5	65
• "Using technology such as i-pads, adapting curriculum to deliver at appropriate level which requires quite detailed work materials, trying to relate the curriculum to best suit their capabilities" (Educator) • "using technology to engage and reduce writing volume" (Parent)				
Additional time	8	32	9	49
• "Extra time" (Educator) • "Placing my son in small groups where he has more time to process the question" (Parent)				
Sensory modifications and supports	11	11	22	44
• "Multisensory approach, learning in chunks with rewards for each task completed" (Educator) • "Structured/scaffolded visual learning supports, less rather than the same, short bursts of work linked to structured breaks, task break down cards, action plans and checklists, all visual supports" (Specialist)				
Individual planning	6	19	4	29
• "Individual learning plans" (Parent)				
Specialist support	0	6	0	6
• "A specialist approach. Slow supported transition. Team approach"				
Other	3	57	4	64
• "Assess daily mood swing and work in areas of interest maintaining subject requirements" (Parent) • "Strategies based on whether the child is intrinsically or externally motivated" (Parent)				

Participants also commented on other strategies that would be useful to implement but not always possible to put into practice or maintain to meet the academic and learning needs of students on the spectrum. Educators (53), specialists (45) and parents (298) comments were coded into the following 12 themes (Table 39).

Table 39: Other Strategies That Are Useful to Implement to Support the Academic and Learning Needs of Students on the Spectrum

Theme	Specialist	Parent	Educator	Total
More staff and individual support e.g. funded aide time	13	74	13	100
▪ "More allocation of funded aides" (Educator) ▪ "Significantly more learning and support staff, training for child and teachers and support staff, greater understanding of task setting keeping in mind limitations of ASD children's ends and adjusting the volume/quantity of work required to meet outcomes without reducing the quality of education and removing the opportunity if further education" (Parent)				
Differentiation of curriculum and assessment	11	62	12	85
▪ "work more suited to his level. It is far too easy and he gets it done in less than half the time of the other students, leaving him bored." (Parent)				
Technology	8	39	1	48
▪ "adaptive technology, use of ICTs" (Specialist)				
Staff training	6	24	10	40
▪ "Further training, resources and funding - APPLIES TO ALL AREAS LISTED" (Parent)				
Smaller classes and groups	4	22	4	30
▪ "more support staff and smaller class size" (Parent)				
Sensory need adjustments	3	26	0	29
▪ "less noise and visual distractions" (Parent)				
Specialist support	1	16	7	24
▪ "OT support to monitor his handwriting and sensory input - frequent observations" (Parent)				
More time	2	10	1	13
▪ "extra time to finish work , extra access to teachers to clarify work" (Parent)				
Explicit teaching	0	10	0	10
▪ "explicit teaching, break down of some components e.g., editing" (Parent)				
Parental involvement	0	4	1	5
▪ "Scaffolded assessments, involve parents"				
Whole school approach	2	0	1	3
▪ "whole school approach (including all of the executive) and staff training"				
Other	9	56	8	73
▪ "Incorporating movement into learning, allowing a larger quantity of work to be typed, speaking slower and clearer, giving child a work schedule at the beginning of each module, and sticking to it, trying to eliminate as much background noise as possible" (Parent).				

When asked to identify barriers to supporting the academic and learning needs of students on the spectrum. Participants comments were categorised into 5 themes that influenced barriers to the implementation of support including: 1) Curriculum adjustments and differentiation, 2) Individual support including support staff, 3) trained staff, 4) social support and 5) other (see Table 40).

Table 40: Barriers to Implementing Support to Meet Academic and Learning Needs of Students on the Spectrum

Theme	Specialist	Educator	Total
Curriculum adjustments and differentiation	32	30	62
Individual support including support staff	19	31	50
Trained staff	2	6	8
Social support	2	4	6
Other	17	20	37

3.6.3 Social emotional needs and students on the spectrum

Educator, parent and specialist participants were asked to comment on the adjustments that were commonly implemented to meet the social emotional needs of students on the spectrum. Educator's (86), specialist's (78) and parent's (322) comments were coded into the following 7 themes:

1. social stories, programs and explicit teaching,
2. individual support,
3. seek specialist and parent support,
4. sensory and environmental adjustments,
5. provide access and safe places,
6. classroom management and
7. other (see Table 40).

According to the participants, key adjustments that are commonly implemented to support the social emotional needs of students on the spectrum included: 1:1 support, teacher aide support, small group support, visual supports, individualised programming, specialised support, social skills training, technology supports, calming and relaxation activities, time away, and explicit teaching of prosocial behaviours and emotional regulation.

Table 41: Common Strategies Used to Support the Social Emotional Learning Needs of Students on the Spectrum

Themes	Specialist	Parent	Educator	Total
Social stories, programs and explicit teaching	**44**	**83**	**46**	**173**
▪ "Social programs at lunch times" (Educator) ▪ "I paid for him to participate in a secret agent society program designed for Autistic children his age" (Parent)				
Individual support	**7**	**40**	**6**	**53**
▪ "One to one class support" (Educator) ▪ "His aide checks in with Xxx to gauge when he is emotionally" (Parent)				
Seek specialist and parent support	**6**	**29**	**8**	**43**
▪ "Use of Primary Welfare officer, social worker and psychologist" (Educator) ▪ "AQ Outreach if sourced by parent" (Parent) ▪ "Liaising with outside agencies and school based counsellors about student needs, creating an open channel of communication with learning support teacher or trusted teacher aide.				
Sensory and environmental adjustments	**8**	**16**	**10**	**34**
▪ "Visuals" (Numerous Educators, Parents and Specialist)				
Provide access to safe places	**7**	**15**	**6**	**28**
▪ "Place for children to retreat at break times (safe room)" (Parent)				
Classroom management	**0**	**1**	**7**	**8**
▪ "Safe place to go to, playground support, skills development, transitional support, excursion support, risk assessment"				
Other				
▪ "Listen when the child is sharing information e.g. "I can read by myself"" (Parent)				

Participants also commented on other strategies that would be useful to implement but that were not always possible to put into practice or maintain. Participant's (educator's (47), specialist's (43) and parent's (272)) comments were coded and 11 themes generated including: 1) funded support including aides and playground supervision, 2) specialist and social skills programs, 3) explicit social skills teaching, 4) social events and groups, 5) specialist support, 6) educate all students, 7) staff training, 8) quiet spaces, 9) smaller class sizes and groups, 10) whole school approach, and 11) other (Table 42) Participants felt it would be useful to implement: more time to work on prosocial and emotional regulation skills, breaks from crowds and group activities, ongoing support in social situations, lunchtime clubs and structured activities, increasing school community awareness, and explicit teaching of prosocial skills.

Table 42: Other Strategies That Are Useful to Implement to Support the Social Emotional Learning Needs of Students on the Spectrum

Theme	Specialist	Parent	Educator	Total
Funded support including aides and playground supervision	6	54	6	66
▪ "Support to participate at lunch/breaks" (Parent)				
Specialist and social skills programs	4	26	9	39
▪ "Secret Agent Society program" (Parent)				
Explicit social skills teaching	5	30	2	37
▪ "Role modelling" (Parent)				
Social events and groups	3	31	2	36
▪ "Activities at lunch time or after school that encourage socialisation" (Parent)				
Specialist support	5	23	3	31
▪ "specialist program and staff to work with student and teachers" (Educator)				
Educate all students	1	23	1	25
▪ "explicit emotional instruction to whole class" (Parent)				
Staff training	2	12	8	22
▪ "More training and understanding of ASD" (Parent)				
Quiet spaces	5	10	2	17
▪ "Greater access to quiet areas or sensory areas, more specially trained staff to help support my child" (Parent)				
Smaller class sizes and groups	2	8	4	14
▪ "small group instruction, time out"				
Whole school approach	3	3	4	10
▪ "Whole school programs"				
Other	9	64	10	83
▪ "More funding" (Educator) "Allowing sensory breaks" (Parent) "teach self regulatory" (Specialist)				

When asked to identify barriers to supporting the social and emotional needs of students on the spectrum. Participants' comments were categorised into 6 themes that identified barriers to the implementation of social and emotional support. These themes included including: 1) knowledge and understanding, 2) funding and resourcing, 3) lack of time, 4) lack of staff including specialist support, 5) class size and 6) other (see Table 43 below).

Table 43: Barriers to Implementation of Supports to Meet Social and Emotional Needs

Theme	Specialist	Parent	Educator	Total
Knowledge and understanding	12	82	26	120
Funding and resourcing	11	94	15	120
Lack of time	15	66	15	96
Lack of staff including specialist support	8	79	9	96
Class size	0	7	5	12
Other	4	20	7	31

3.6.4 Communication needs and students on the spectrum

Educator, parent and specialist participants were asked to comment on the adjustments that were commonly implemented to meet the communication needs of students on the spectrum. In addition, participants were asked to describe other supports that may be useful to implement to support the communication needs of students on the spectrum but were not currently being used. Furthermore, they were asked to identify barriers to communication adjustments being implemented and the communication needs of students on the spectrum being met,

Participants (educators (77), specialists (73) and parents (285) provided comments about common strategies that were used to support the communication needs of students on the spectrum. These were coded into the following 6 themes: 1) Communication tools, 2) explicit teaching and social stories, 3) specialist support, 4) written communication including email and diaries, 5) short clear language and 6) other (see Table 44). Key communication adjustments that were identified as being commonly implemented included: 1:1 support, teacher aide support, small group support, visual supports, individualised programming, specialised support, social skills and communication specific training, technology supports for communication, and explicit teaching of communication skills.

Table 44: Common Strategies Used to Support the Communication Needs of Students on the Spectrum

Theme	Specialist	Parent	Educator	Total
Communication tools e.g., visual aides	21	82	37	140
▪ "communication cards - safe exit from class if feeling overwhelmed" (Educator) ▪ "use visual cue cards for daily routine etc." (Parent) ▪ "Daily routine timetables displayed and Boardmaker" (Specialist)				
Explicit teaching and social stories	6	17	12	35
▪ "direct teaching of appropriate language and understanding of nonverbal gestures, modelling of appropriate verbal interactions, small group situations," (Specialist)				
Specialist support	1	23	8	32
▪ "engaged a part time speech Therapist who is also a qualified teacher" (Educator) ▪ "Speech therapy but need to be way more and one on one not a visiting practitioner who groups the children it's not individualised" (Parent)				
Written communication including email and diaries	0	5	6	11
▪ "communicate through diary and email to parents" (Educator) ▪ "new techniques with communication books" (Parent)				
Short clear language	1	3	7	11
▪ "slow, short, repeated statements" (Educator) ▪ "Communication with teachers about ensuring our child has heard instructions, and breaking down instructions. to class and teacher of the need to wait longer for answers" (Parent)				
Other	8	51	17	76
▪ "Help teacher in communicating with student" (Educator) ▪ "encouraged to talk" (Parent)				

Other communication strategies that participants felt would be useful to implement but were not always possible to do so were coded into 9 themes based on participant comments from educators (39), specialists (36) and parents (217) (see Table 45). Strategies included: providing flexibility in the curriculum, adaptation of teaching methods, 1:1 support, access to small group and withdrawal, additional supports in communication, and more differentiation, adjustments and specialised support in communication.

Table 45: Other Strategies That Are Useful to Implement to Support the Communication Needs of Students on the Spectrum

Theme	Specialist	Parent	Educator	Total
Speech pathologists and specialists	**9**	**35**	**5**	**49**
▪ "Speech support for all children that have any speech requirements" (Parent)				
Technology	**2**	**28**	**8**	**38**
▪ "Assistive technologies" (Educator)				
Alternate communication adjustments	**3**	**31**	**3**	**37**
▪ "Should be allowed options. Some other way of communicating - cards or pictures (even though he is very verbal" (Parent)				
Additional staff for individual support	**1**	**24**	**7**	**32**
▪ "Extra staff and properly trained teacher aides in all areas." (Educator)				
Explicit teaching and practice	**2**	**23**	**2**	**27**
▪ "Separate class for learning social skills, maybe once a week" (Parent)				
Staff training	**3**	**16**	**7**	**26**
▪ "Educate teachers" (Parent)				
Communication with parents	0	10	2	12
▪ "Daily or weekly communication b/t parents would be helpful" (Parent)				
Whole school approach	1	0	1	2
▪ "whole school approach (including all of the executive) and staff training"				
Other	11	39	7	57
▪ "Greater access to quiet areas or sensory areas, more specially trained staff to help support my child" (Parent)				

Similarly, to the barriers identified in supporting the social and emotional needs of students on the spectrum, the themes identified when participants were asked to identify barriers to supporting the communication needs of students on the spectrum were almost identical. Participants' comments were categorised into 6 themes that identified barriers to the implementation of communication support (see Table 46 below).

Table 46: Barriers to implementation of Supports to Meet Communication Needs

Theme	Specialist	Parent	Educator	Total
Funding and resourcing	11	95	11	117
Knowledge and trained staff	10	70	14	94
Lack of time	13	57	12	82
Lack of staff including support staff	6	28	10	44
Class size	0	3	2	5
Other	2	22	4	28

3.6.5 Sensory needs of students on the spectrum

Educators and specialists were asked how much they agreed a range of different sensory experiences impact on the ability of students on the spectrum to participate at school. In contrast, parents were asked how much they agreed a range of different sensory experiences impact on the ability of their own child on the spectrum to participate at school.

There was strong agreement across educators, specialists and parents around the sensory experiences which had the most impact on the students' ability to participate, learn and perform in the school environment (see Table 47). These sensory experiences were identified as impacting on the student to the extent that it interfered with their learning in classrooms. Overall the highest rating sensory issue was noise. This was followed by sensory experiences related to touch as well as the ability to stay still. Other sensory experiences identified as having an impact on the students on the spectrum to the extent that it interfered with their learning and performance in the school environment included: a) seeking out sensory experiences (e.g., rocking, chewing things, making noises, moving hands); b) "tuning out" (e.g., failing to respond when spoken to); c) being distressed or distracted by things that they see (e.g., bright sunlight, fluorescent light); d) being distressed or distracted by smells (e.g., toilets, lunches, body odours); and, e) having an extremely limited diet. The data clearly demonstrates the high correlation between educator, specialist and parent viewpoints on this topic.

Table 47: Sensory Experiences Rated as Having the Most Impact on Learning in the School Environment

Sensory (Scale 1-5; 5 = most adjustment)	Educator	Specialist	Parent
My students/child are sometimes distressed or distracted by noise (e.g., noisy classrooms, assemblies, playgrounds, other students shouting)	4.6	4.4	4.5
My students/child are sometimes distressed or distracted by touch sensations (e.g., others crowding them, feeling of clothing, sticky substances such as glue or play-dough).	4.4	4.4	4.1
My students/child sometimes have difficulty staying still to the extent that it interferes in class.	4.4	4.5	4.0
My students/child sometimes seek out sensory experiences to the extent that it interferes at school (e.g., rocking, chewing things, making noises, moving hands).	4.3	4.5	3.9
My students/child seem to 'tune out' (e.g., fail to respond when spoken to)	4.2	4.3	4.2
My students/child are sometimes distressed or distracted by things that they see (e.g., bright sunlight, fluorescent light).	4.1	4.1	3.7
My students/child are sometimes distressed or distracted by smells (e.g., toilets, lunches, body odours).	3.8	3.9	3.7
My students/child have an extremely limited diet to the extent that it interferes with school performance.	3.4	3.6	2.8

Furthermore, a number of participants (educators (248), parents, (934), and specialists (179)) made additional comments about the sensory experiences that have the most impact on learning and these were coded into 8 categories (See Table 48). The comments highlight that noise, and touch had the biggest impact and overall, noise was the most commonly commented upon sensation. Examples of the additional comments participants made are presented below and highlight how many sensations students on the spectrum experience in the school environment that may have an impact on their learning, engagement and participation:

Table 48: Thematic Coding of Sensory Experiences That Have the Most Impact on Learning

Theme	Specialist	Parent	Educator	Total
Noise	98	523	122	743
Touch	34	136	40	210
Other including smell, movement, all and none	21	136	7	164
Crowding	15	94	17	126
Lighting	14	81	12	107
Visual	11	20	9	40
Depends	13	2	8	23

Educator, parent and specialist participants were asked to comment on the adjustments that were commonly implemented to meet the sensory needs of students on the spectrum. In addition, participants were asked to describe other supports that may be useful to implement to support the sensory needs of students on the spectrum but were not currently being used. Furthermore, they

were asked to identify barriers to sensory adjustments being implemented and the sensory needs of students on the spectrum being met.

In their qualitative comments, participants highlighted 5 key themes linked to supporting the sensory needs of students in the classroom. These are outlined in Table 49.

Table 49: Commonly Implemented Supports to Meet the Sensory Needs of Students on the Spectrum

Theme	Specialist	Parent	Educator	Total
Quiet organised alternative spaces	77	290	134	501
Sensory toys and objects including headphones	46	139	87	272
Breaks and timeout	39	165	62	266
Adjustments in mainstream classes	17	121	47	185
Little or nothing in place	1	102	1	104

Some sample quotes from participants describing strategies schools used to help accommodate the sensory needs of students on the spectrum are included below. A key strategy that was discussed was the quiet area or time away space that students could access when needed. Some examples of other suggestions are also included:

Theme: Quiet room

Use of a quiet room was commonly implemented, predominantly in an organised, safe space, often located in a special education unit or area. Other schools used withdrawal rooms, library spaces or administration areas. For example:

> *"He is allowed some "down time" to "hang out" with the Principle and "talk about stuff". His words not ours"*

Theme: Sensory toys

Use of sensory toys was also a commonly implemented strategy to address the sensory needs of students.

> *"Together we provide fidgets, movement disc (wedge), elastic on chair to focus on to try to get my child to stay in his chair, kinetic sand in the classroom as reward for success and for time out, quiet area for time out, headphones"*

A number of parents commented that the sensory objects were supplied by the family with no funding assistance provided to support these additional resources.

"special seat (which we provided to them - not supplied by the school due to lack of funding)"

Theme: None

For some parents, there was minimal or no need for adjustments based on their child's sensory needs. For example:

"None, but no major sensory issues for my child."

For others, the level of support was insufficient and problematic:

"Although this has been discussed with the SN Co-ordinator & Assoc Principal, strategies are not in place."

"Considering this school does NOTHING to ensure children's safety or properly spend department funding I am amazed that they have a 'sensory' room however they have one teacher's aide for a few hours a week for a large number of ASD kids and therefore my ASD son has not even seen this room they claim to have"

"They don't have any strategies. I ask them if she can leave room if too noisy. They expect my child to tell them if something is annoying her. So nothing happens because my child won't speak up because she is too busy shutting down from sensory overload."

"There's nowhere for my child to go"

"His school won't allow any of the recommendations of his O.T or psychologist for him to calm down and when having a meltdown as they believe that if they let him have or do these things all the other kids will want to do it as well."

Schools' lack of support led a number of parents (10) to explain that this was why they now chose to home school or seek education through distance education:

"None - which is why im homeschooled. The principal even told me he and my child's teacher didn't believe he was defecating and urinating himself during the day. That the 2 changes of clothes was clearly insufficient and he needed as many changes as it took - as opposed to changing something in my son's learning and environment that would have stopped his incontinence and self-harming and wish to die because of school"

“Our previous schools have all been unable to accommodate my sons sensory needs. They just don’t get it!!!! Distance education done at home is our only option.”

“Hahaha that is why we homeschool”

Theme: Breaks

Some parents indicated that breaks could mean that students were at risk of not receiving enough academic challenge (e.g., missing work when they were allowed to leave class).

“In year 2 quiet space was provided and time out cards. Year 3 breaks for drinks or jobs are being used as a way of allowing time out but not bringing attention to the need”

“They provide a desk at the back of the classroom that is tucked away behind half walls so he can use his sensory tools without distracting the rest of the class. He is disconnected though and has only 1 hour per day of teacher aide support and I had to fight to get that assigned. He fails to complete assessments in class and the teacher makes no effort to work one on one to complete any. He gets a comment "refused to complete assessment" on his report card instead of a grade.”

Theme: Mainstream class adjustments

Mainstream class adjustments included allowing students to be in the front of lines, changing seating arrangements. Other strategies included the use of time-out cards, special quiet places, turning off lighting when required. On the whole these comments were positive, although some parents noted that the strategies were insufficient. For example, one parent said that:

“They have given my child a cardboard box to hide in when he becomes overwhelmed. I have approached them about setting up a sensory room for all ASD students at the school and I've had no feedback yet. I've also suggested that they allow my son to build his own quite safe space under the teacher's desk, but this hasn't been done either”

The majority of parents described a number of adjustments in class, examples include:

“Velcro under her desk to distract from chewing. A small tent in the corner to hide in. Letting other children know she needs help too.”

“Where he is currently they have a small cubby in the room that he uses as a quite space when overloaded. They also have a small trampoline that is used to provide him with an opportunity for heavy work to help him to regulate and focus.”

"they provided a sensory room this year in the classroom with a tent and curtains and fiddle toys and a bean bag. It's wonderful. Prior to that it was a cushion in the corner of the classroom which wasn't great but it was an attempt. I worry though that in the next years he won't be in that classroom and I think he really benefits from that quiet space. The school have been great with letting him wander around the school grounds if he is feeling overwhelmed (prior to installing the sensory room). He is not expected to go to assembly or he can sit outside. They schedule regular breaks. They have fiddle toys and a bean bag and a weighted cushion. He is allowed to use his Ipad as a reward. He eats out of anxiety sometimes but at other times he is allowed to have a snack if he needs it.they have provided chew toys and timers and a visual schedule system."

Mainstream teachers also used strategies such as teaching inclusive behaviours and strategies to the whole class. E.g., one parent said:

"Teacher is educating the entire class on differences between individuals. From this she encourages appropriate behaviour and responses from all students"

Theme: Student strategies

Student strategies included teaching the students the ability to self-regulate by implementing strategies to meet and manage their sensory needs:

"The school is excellent at preparing him for noisy or different environments. Use social stories and we have simple strategies of hand on ears or wet suit in pool."

When asked to identify barriers to implementing supports to meet the sensory needs of students on the spectrum, participants identified 6 key themes (Table 50). These included: 1) funding and lack of resourcing, 2) lack of knowledge and training, 3) lack of staff and time, 4) lack of appropriate resourcing and accommodation, 5) class size, and 6) other.

Table 50: Barriers to implementation of Supports to Meet Sensory Needs

Theme	Specialist	Parent	Educator	Total
Funding and lack of resourcing	17	200	27	244
Lack of knowledge and training	25	155	35	215
Lack of staff and time	28	121	32	181
Lack of appropriate resourcing and accommodation	10	39	16	65
Class size	3	4	5	12
Other	1	17	4	22

3.7 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.

3.7.1 Positive approach to behaviour support

When educators and specialists were asked on a scale of 1-5 (1 = strongly disagree and 5 = strongly agree) if they felt the schools they worked in had a positive approach to behaviour support, on average educators agreed their schools did, while specialists only slightly agreed that the schools they supported had a positive approach to behaviour support. Similar to the specialist response, on average, parents only slightly agreed that the school their child attended had a positive approach to behaviour support (see Figure 21).

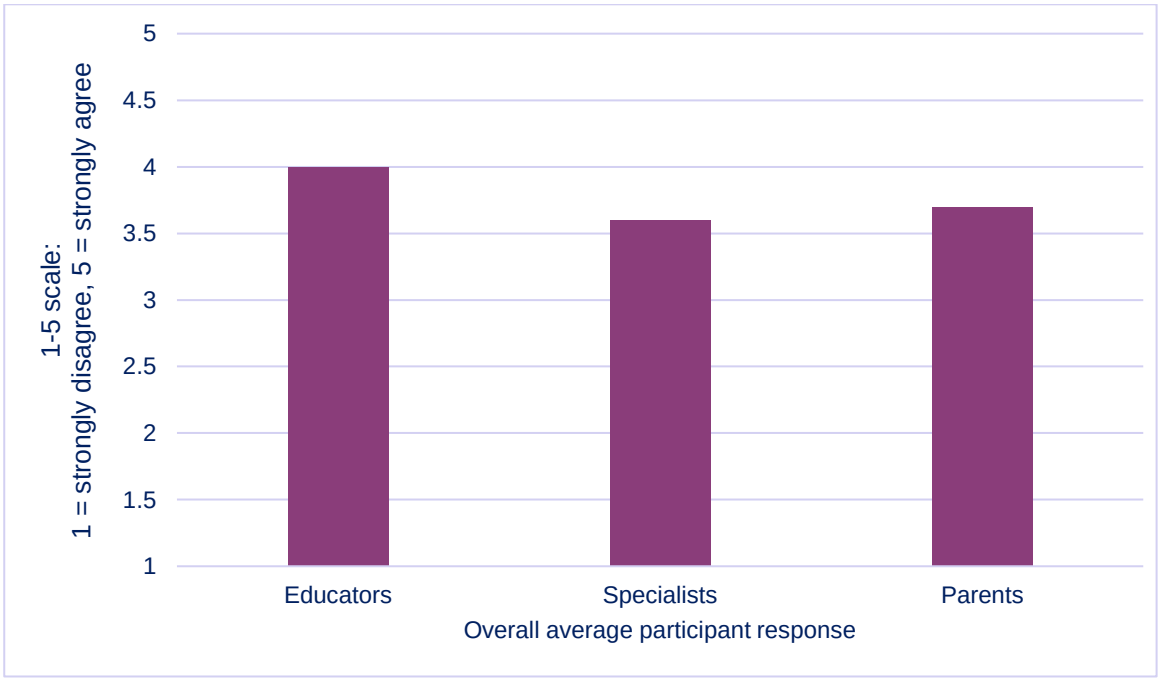

Figure 21: Positive approach to behaviour support in schools

3.7.2 Behavioural needs and students on the spectrum

Educator, parent and specialist participants were asked to comment on the adjustments that were commonly implemented to meet the behavioural needs of students on the spectrum. In addition, participants were asked to describe other supports that may be useful to implement to support the behavioural needs of students on the spectrum and to identify barriers to adjustments being implemented and the behavioural needs of students on the spectrum being met.

The most common supports identified by participant comments (Educators (87), parents (280) and specialists (73)) were coded into the following 8 themes (See Table 51). These themes highlight the need for individual behaviour support plans, specialised and individual support and suitable adjustments being made at an individual, class and whole school level.

Table 51: Commonly Implemented Supports in Schools to Help Support Students on the Spectrum to Manage Their Behaviours

Themes	Specialist	Parent	Educator	Total
Individual behaviour plans including rewards consequences and boundaries	20	16	34	70
▪ "Individual behaviour plan which outlines special requirements or alternatives" (Educator) ▪ "Behaviour plan, school psychologist is consulting with this." (Parent)				
Specialist and individual support	0	8	17	25
▪ "Access to school counsellor and school psychologist; parent-funded educational psychologist interactions. Conversations between parents and child, and parents and school staff." (Parent) ▪ "Use of OT in classrooms" (Parent)				
Behaviour programs and explicit teaching	0	0	18	18
▪ "Behaviour management programs" (Educator) ▪ "Teaching alternative behaviours" (Parent)				
Visuals and sensory adjustments	0	0	16	16
▪ "Setting firm boundaries using visuals" (Educator)				
Whole school approach	1	0	7	8
▪ "Whole school approach (including all of the executive) and staff training"				
Antecedent strategies	0	0	8	8
▪ "Understand causes of behaviour, goals of it, develop specific strategies to deal with the removal from class and or school				
Other	0	0	15	15
▪ "Reduced time of lessons" (Educator)				

Additionally, 322 participants (educators (44) specialists (42) and parents (236)) comments were coded into 9 themes as outlined in Table 52. The comments describe additional behavioural supports identified as useful to implement. These comments generally indicated an urgent need for training for classroom teachers as well as other school staff. Other comments highlighted the need

to have access to more in-class/in-school support including additional (trained) support (teachers, teacher-aides, specialists) in class as essential if a quality education is to be provided to students. The importance of a whole school approach, rewards and use of calm zones were also emphasised.

Table 52: Additional Behavioural Support Strategies That Would be Useful to Implement but Not Always Possible to Execute

Theme	Specialist	Parent	Educator	Total
More staff and individual support	4	28	16	48
▪ "1 to 1 assistance with an aide to cover a group of autistic students" (Educator)				
Staff training	8	22	7	37
▪ "More education for teachers" (Parent)				
Specialist support	6	22	4	32
▪ "Regular joint teaching opportunities from professionals prior to recommendations and greater support post recommendations. Training up specialist teachers in the areas of sensory, behaviour, technology communication to better support teaching colleagues across schools." (Educator)				
Behaviour plans	8	9	5	22
▪ "Have a behavioural plan in place to better help my son when things go wrong." (Parent)				
Calm zones	1	17	1	19
▪ "Time out room" (Parent)				
Behaviour programs	3	9	3	15
▪ "ABA therapy" (Parent)				
Rewards	0	13	0	13
▪ "Reinforcing good behaviour"				
Whole school approach	3	6	2	11
▪ "Recognition by whole school staff of needs, triggers and strategies to help self soothe'				
Other	12	96	9	117
▪ "More funding" (Educator) ▪ "Praising him for doing the right thing and being proactive rather than reactive" (Parent)				

3.7.3 Factors affecting the capacity of students on the spectrum to participate in schools

Additionally, on average when educators, specialists and parents were asked on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree) to rate the factors that had the most impact on the capacity of students on the spectrum to participate in school, they provided the following key responses. Unanimously across all three participant groups the highest rated factors to influence the capacity of students on the spectrum to participate in schools were linked to dealing with anxiety and activities that required executive function skills such as attention to task, organising

themselves, their belongings and their thoughts. The full list of responses appears in Table 53 and clearly indicates strong agreement across all three participant groups.

Table 53: Factors Affecting the Capacity of Students on the Spectrum to Participate in School

Factors affecting the capacity of students on the spectrum to participate in school (1-5 Scale: 1 = strongly disagree, 5 = strongly agree)					
Educators		**Specialists**		**Parents**	
Difficulty organising thoughts	4.49	Anxiety	4.63	Attention to task	4.33
Anxiety	4.45	Difficulty understanding what to do	4.56	Difficulty organising thoughts	4.32
Difficulty understanding what to do	4.39	Difficulty organising thoughts	4.54	Anxiety	4.19
Attention to task	4.36	Attention to task	4.45	Difficulty organising themselves/belongings	4.19
Difficulty organising themselves/belongings	4.34	Difficulty organising themselves/belongings	4.44	Difficulty understanding what to do	4.18
Resistance to change/rigidity	4.23	Resistance to change/rigidity	4.39	Failure to complete tasks	4.05
Failure to complete tasks	4.22	Unable to ask for help	4.38	Resistance to change/rigidity	3.88
Failure to start tasks	4.21	Failure to complete tasks	4.28	Unable to ask for help	3.84
Non-compliance	4.12	Failure to start tasks	4.23	Failure to start tasks	3.72
Unable to ask for help	4.07	Non-compliance	4.11	Repetitive behaviours/restricted interests	3.65
Repetitive behaviours/restricted interests	4.06	Repetitive behaviours/restricted interests	4.07	Non-compliance	3.50
Passive resistance	4.00	Passive resistance	3.88	Passive resistance	3.43
Aggression towards peers	3.77	Aggression towards peers	3.81	School refusal	2.85
Aggression towards adults	3.65	Aggression towards adults	3.71	Aggression towards peers	2.84
Depression	3.59	Depression	3.68	Depression	2.73
School refusal	3.45	School refusal	3.58	Aggression towards adults	2.65
Self-injurious behaviours	3.19	Self-injurious behaviours	3.28	Self-injurious behaviours	2.23
Suicidal thoughts	3.01	Suicidal thoughts	3.09	Suicidal thoughts	1.99
Suicide attempts	2.69	Suicide attempts	2.79	Suicide attempts	1.61

When asked about the factors that affect the capacity of students on the spectrum to participate at school educators (46), and specialists (9) comments were coded into 5 thematic categories based around

1) skills and attitudes of teachers,

2) social situations and bullying,
3) anxiety and sensory needs,
4) focus and understanding directions, and
5) other (see Table 54).

Table 54: Themes Highlighting Factors that Affect the Capacity of Students on the Spectrum to Participate at School

Theme	Specialist	Parent	Educator	Total
Skills and attitudes of teachers	3	7	3	13
Social situations and bullying	1	11	1	13
Anxiety and sensory needs	2	10	0	12
Focus and understanding directions	0	5	0	5
Other	4	11	2	17

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

In the survey educators, specialists and parents were asked what comorbid conditions had the most impact on the support, assistance, adjustments and accommodations that were required for students on the spectrum. These were rated on a 5-point Likert scale (1 = strongly disagree and 5 = strongly agree). There were strong similarities in the responses received from all participant groups (see Table 55). 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 across all three participant groups 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 55: Comorbid Conditions Affecting Educational Support Requirements of Students on the Spectrum

How much the needs of students on the spectrum requiring additional support, assistance, adjustment and accommodation are affected by comorbid conditions within educational settings (1-5 Scale 1 = strongly disagree, 5 = strongly agree)					
Educators		**Specialists**		**Parents**	
Anxiety disorder	4.36	Anxiety disorder	4.60	Learning difficulties	4.58
Learning difficulties	4.32	Language disorder	4.52	Anxiety disorder	4.52
Auditory processing disorder	4.23	Learning difficulties	4.52	Auditory processing disorder	4.51
Attention deficit/ Hyperactivity disorder	4.18	Attention deficit/ Hyperactivity disorder	4.49	Language disorder	4.47

How much the needs of students on the spectrum requiring additional support, assistance, adjustment and accommodation are affected by comorbid conditions within educational settings (1-5 Scale 1 = strongly disagree, 5 = strongly agree)					
Language disorder	4.17	Auditory processing disorder	4.35	Intellectual impairment	4.47
Intellectual impairment	4.14	Intellectual impairment	4.29	Attention deficit/ Hyperactivity disorder	4.46
Conduct disorder	3.95	Depression	4.06	Physical impairment	4.41
Depression	3.85	Conduct disorder	3.98	Hearing impairment	4.36
Psychiatric conditions (e.g., schizophrenia)	3.55	Psychiatric conditions (e.g., schizophrenia)	3.71	Vision impairment	4.36
Hearing impairment	3.44	Physical impairment	3.56	Conduct disorder	4.35
Vision impairment	3.43	Vision impairment	3.48	Depression	4.33
Physical impairment	3.42	Hearing impairment	3.45	Psychiatric conditions (e.g., schizophrenia)	4.29

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

Educators, specialists and parents were also asked to indicate on a 5-point Likert scale (1 = strongly disagree and 5 = strongly agree) what they felt were most likely to be barriers to support the more challenging and complex needs of students on the spectrum. Table 35 below highlights the responses of all three participant groups. As with other questions, there was strong alignment across all participant groups. Lack of funding was flagged as the biggest barrier by all three participant groups. Other key barriers identified included: a) lack of time; b) lack of suitable education and training; and, c) lack of specialist support. Table 56 below shows all the responses provided.

Table 56: Possible Barriers to Supporting the Challenging Behaviours and More Complex Needs of Some Students on the Spectrum

Possible barriers to supporting the challenging behaviours and more complex needs of some students on the spectrum (1-5 Scale 1 = strongly disagree, 5 = strongly agree)					
Educators		**Specialists**		**Parents**	
Inadequate funding	4.41	Inadequate funding	4.48	Inadequate funding	4.57
Lack of time	4.26	Lack of time	4.31	Lack of suitable education and training	4.38
Lack of suitable education and training	4.25	Lack of suitable education and training	4.26	Lack of time	4.30
Lack of specialist support	3.80	Lack of specialist support	4.11	Lack of specialist support	4.22
Lack of support from workplace	3.63	Lack of support from workplace	3.94	Lack of support from managers	4.13
Lack of support from managers	3.62	Lack of support from managers	3.91	Lack of support from workplace	4.10
Geographical problems	3.20	Geographical problems	3.39	Geographical problems	3.28

There were also additional comments made by educators (123), specialists (110) and parents (556) which highlighted the possible barriers to the challenging behaviours and more complex needs of some students on the spectrum. These comments were coded into 10 key themes including: 1) additional staff for individual support, 2) withdrawal from situation, 3) specialist support and multidisciplinary approach, 4) adjustment strategies and plans, 5) patience, 6) family school partnerships, 7) training, 8) safe spaces, 9) suspensions and 10) other (See Table 57 for more details).

Table 57: Possible Barriers to Supporting the Challenging Behaviours and More Complex Needs of Some Students on the Spectrum

Theme	Specialist	Parent	Educator	Total
Additional staff for individual support	23	124	36	183
▪ "Challenging and behavioural needs students require 1:1 support to guide them because their impact on the learning of others greatly affects the educational opportunities and wellbeing of others in the classroom. They also need guidance, by an aide, to be taught social behaviour without taking away the teacher's time from other students in the class." ▪ "Again funding More staff to help the child (again money)" ▪ "Like mentioned above: More human resources or programs (regional etc.) to enable students with consistent challenging or dangerous behaviours to be helped 1-1 and not interfere with learning of the other students due to these behaviours on a regular basis."				
Withdrawal from situation	26	121	35	182
▪ " Believe they need a safe secure soft place to go to, familiar items, time out to readjust behaviours, music or/and books."				
Specialist support and multidisciplinary approach	30	67	23	120
▪ "Full team including OT Speech Teaching paed and Psychiatrist working in-situ with parents and buy in from parents that there is a problem. Solution is across environments and consistent approach based on motivation of the student and looks at engagement not behaviour support"				
Adjustments strategies and plans	25	64	25	114
▪ "Ideas for strategies to use - being away from metro area makes this difficult. We are generally left to manage as best we can." ▪ "Better that we manage these kids using known strategies than have these situations arise." "Plan of attack, just like an asthma plan"				
Patience	9	91	9	109
▪ Lack of understanding issues on behavioural needs of ASD"				
Family school partnerships	14	68	17	99
▪ "Lack of understanding from the parent community"				
Training	11	49	8	68
▪ "Staff with appropriate skills"				
Safe spaces	7	46	12	65
▪ "White room- chill out room that students can use when overwhelmed"				
Suspensions	1	4	1	6
▪ "Inappropriate use of negative consequences for behaviour, and no consideration of the causes of behaviour"				
Other	2	33	1	36
▪ "stress level of teachers" ▪ "Too crowded curriculum to allow time for needs to be addressed"				

Similarly, when asked what further assistance would help to support the more complex behavioural needs of students on the spectrum in an educational setting qualitative comments from educators (107), parents (529) and specialists (92) were coded into the following 10 thematic categories:

1. additional staff for individual support and smaller classes,
2. training,
3. specialist and multidisciplinary support,
4. funding,
5. home school cooperation,
6. safe, quiet space,
7. assistance with planning and implementation of strategies,
8. patience,
9. resources and suitable accommodation, and
10. other (see Table 58 for more detail).

Table 58: Further Assistance to Support the More Complex Behavioural Needs of Students on the Spectrum in an Educational Setting

Theme	Specialist	Parent	Educator	Total
Additional staff for individual support and smaller classes	31	179	53	263
Training	27	179	33	239
Specialist and multidisciplinary support	27	72	9	108
Funding	12	54	7	73
Home school cooperation	3	63	6	72
Safe, quiet space	5	31	3	39
Assistance with planning and implementation of strategies	5	14	8	27
Patience	1	17	1	19
Resources and suitable accommodation	0	11	4	15
Other	5	30	9	44

Six key themes were identified as barriers to implementing behavioural supports for students on the spectrum. These themes highlighted training, time, access to additional support and specialised staff and funding as key concerns (See Table 59).

Table 59: Barriers to Implementing Behavioural Supports for Students on the Spectrum

Theme	Specialist	Parent	Educator	Total
Trained and understanding staff	13	91	21	125
Lack of time	13	53	10	76
Lack of staff including aides and specialists	10	57	29	96
Funding and resourcing	6	91	12	109
Attitudes	2	23	2	27
Other	4	23	13	40

3.8 TRANSITION NEEDS OF STUDENTS ON THE SPECTRUM

Transitions take up to 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 as can be seen in Table 60.

Table 60: Transition Needs of Students on the Spectrum

	Educator		Specialist		Parent	
	Yes	No	Yes	No	Yes	No
Does your school ensure additional support for students on the spectrum to enable them to navigate transitions?	80.1%	19.9%	70.2%	29.8%	56.6%	43.4%
Types of transition support in place:						
Involvement of students, parents or guardians in the decision about suitable school options	11.5%	1.3%	10.4%	2%	7.2%	5.3%
Student progress is monitored during transition	10.2%	2.4%	9.5%	2.8%	6%	6%
That the transition program is developed with the receiving school	9.7%	2.7%	9.4%	2.9%	5.7%	6.2%
They have a transition plan	9.4%	3.1%	9.4%	3%	6.4%	6.3%
Accommodations are made to support transition of students between lessons/classes	8.8%	3.3%	8.5%	3.5%	5.2%	6.8%
Accommodations are made to support transition of students between year groups	8.6%	3.3%	8.7%	3.6%	5.6%	6.4%
Student progress is monitored post-transition	7.2%	4.9%	6.6%	5.4%	4.9%	6.9%
Post-transition support is available for the student and the receiving school	6.8%	5.1%	6.0%	5.9%	4.5%	7%
Other	0.4%	1.4%	0.6%	1.7%	0.5%	3.1%

Specific examples participants provided about transition supports focused on visual supports, transition planning, communication and collaboration about the process with key stakeholders, individual needs, utilising flexible arrangements and additional time. Overall 426 qualitative comments were analysed ((educators (72), parents (289) and specialists (65) and were coded into the following 9 categories related to transition and transition support for students on the spectrum (see Table 61).

Most comments described major transitions (e.g., between schools) although some described transitions between year levels, teachers and supply teachers, and between lesson transitions. Specialist teachers reported a wide variation in transition practices. Responses from parents and educators also indicated that there are a wide variety of programs ranging from minimal (or no support) through to extensive support programs.

Table 61 Themes Generated Relating to Transition and Transition Supports for Students on the Spectrum

Theme	Specialist	Parent	Educator	Total
Planned transitions and programs	27	90	30	147
Communication with families and student	7	75	23	105
IEPs and Plans	23	62	19	104
Teacher aide and support	3	25	8	36
Social stories	6	15	8	29
Visual aids	4	14	6	24
Buddy system	1	4	3	8
Other	2	59	8	69

Some sample quotes provided on transition supports include:

Planned transitions and support.

"The schools I visit vary greatly in their practices - some have a very comprehensive transition process, others do nothing." (Specialist)

"Transition to next year level not sufficient, often not done before end of year and not willing to tell what students will be in the class in case they need to change. This means if he is lucky he will meet the teacher once before the end of the year but usually when they are packing up at the end if term"

"Practising the new transport options, ie bus runs etc."

"MY SON HAS ATTENDED SOME TRANSITION DAYS AND THEY JUST LEAVE HIM IN THE LEARNING SUPPORT ROOM PLAYING GAMES!!!!!!"

Communication with families and student

"XXX school is always keeping me up to date with XXX's progress either on person, by email or phone calls. We have been through 3 public schools, this is the first school I cannot fault! He was 2years behind thanks to public schools giving up on my son. XXX is nearly top of the class now, and has more friends than ever. All in a year and a half."

"Extensive transition program for students entering out school from primary school. Many visits and welcoming sessions. Meetings with primary school staff and families also."

"Receiving school has developed a transition program in conjunction with myself and Psychologist. They will monitor progress."

"Lack of communication is a huge problem"

3.9 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).

3.9.1 School connectedness and staff working with students on the spectrum

As part of the surveys, educators and specialists were asked to complete the Psychological Sense of Organisational Membership (PSOM; Cockshaw & Shochet, 2010) which asked them to indicate using a 5-point Likert scale (1 = not at all true, 4 = almost always true, and 5 = completely true) how true they considered a range of statements to be.

Table 62 outlines the overall mean responses of both the educator and specialist participant groups and what this suggests about their sense of connection to the organisations they worked for. Overall, the educators' mean score was 4.13 which placed the average response in the "almost always true" range. However, interestingly overall one of the highest ranking responses was to the statement "It is hard for people like me to be accepted here" with a mean score of 4.44, indicating they felt it was almost always true that this was the case. On average, the lowest ranking statement for educators was "Most managers/supervisors in this organisation are interested in me" with a mean score of 3.82, indicating this statement was in the "as often true as not true range". However, for educators' statements such as "People in this organisation are friendly to me", the mean score was 4.38, and for "I am treated with as much respect as other employees", the mean score was 4.24, indicating these statements were almost always true.

In comparison, the specialists' overall mean score for 'connectedness' to the organisation was slightly less than educators at 3.94, indicating it fell within the "as often true as not true range". Additionally, in comparison to educator responses, the specialists' highest ranking statements were "People in this organisation are friendly to me" (mean score = 4.25) and "I wish I were in a different organisation" (mean score = 4.25), indicating these statements in general were almost always true. In comparison, the specialists' lowest ranking statement was "I can really be myself in this organisation" with a mean score of 3.64, indicating this fell within the "as often true as not true range".

Table 62: Psychological Sense of Organisational Membership of Educators and Specialists (PSOM; Cockshaw & Shochet, 2010)

Psychological Sense of Organisational Membership	Educators	Specialists
I feel like a real part of this organisation	4.08	3.84
People here notice when I'm good at something	3.88	3.78
It is hard for people like me to be accepted here	4.44	4.08
Other people in this organisation take my opinions seriously	3.87	3.80
Most managers/supervisors in this organisation are interested in me	3.82	3.70
Sometimes I don't feel as if I belong here	4.32	3.99
There's at least one supervisor/manager in this organisation I can talk to if I have a problem	4.32	4.13
People in this organisation are friendly to me	4.38	4.25
Managers/supervisors here are not interested in people like me	4.43	4.21
I am included in lots of activities at this organisation	4.05	3.75
I am treated with as much respect as other employees	4.24	4.02
I feel very different from most other employees here	4.15	3.79
I can really be myself in this organisation	3.84	3.64
The managers/supervisors here respect me	4.09	4.02
People here know I can do good work	4.26	4.08
I wish I were in a different organisation	4.26	4.25
I feel proud to belong to this organisation	4.15	3.81
Other employees here like me the way I am	4.03	3.99
Total Average PSOM	4.13	3.94

3.9.2 School connectedness – Responses from parent and student participants

In comparison, when parents were asked to complete the Psychological Sense of School Membership (PSSM; Goodenow, 1993) to gauge their sense of their child's school connectedness,

the mean scores were lower at 3.44 and more strongly positioned in the “as often true as not true range”. Parent responses indicated on average the highest ranking response was to the question “Teachers at this school are not interested in people like my child” with a mean score of 4.11. This indicated on average most parents felt that it was almost always true that the teachers at the school their child attended were not interested in children like their child. On average, the lowest ranking question was “Other students take my child’s opinions seriously” with a mean score of 2.70, indicating that on average parents felt this was somewhat true (Table 62).

Overall ratings of school connectedness from the students themselves were the lowest with mean scores of 3.17, placing their responses generally in the “as often true as not true range”. Student responses indicated on average the highest ranking response was to the question “There’s at least one teacher or other adult at this school I can talk to if I have a problem” (mean score = 3.96). This indicated that on average most students felt that it was close to almost always true that there was at least one teacher or other adult in the school they could talk to. In comparison, on average the lowest ranking question was “I feel very different from most other students here at my school” (mean = 2.40). This indicated the students generally felt it was somewhat true that they felt different from other students at the school. See Table 63for detailed information.

Table 63: Psychological Sense of School Membership (PSSM; Goodenow, 1993) – Parents’ and Students’ Responses

Psychological sense of school membership			
Parent		**Child**	
My child feels like a real part of the school.	3.28	I feel like a real part of my school.	2.90
People at this school notice when my child is good at something.	3.37	People here notice when I’m good at something.	3.27
It is hard for people like my child to be accepted at this school.	3.62	It is hard for people like me to be accepted here at school.	2.71
Other students take my child’s opinions seriously.	2.70	Other students in this school take my opinions seriously.	2.66
Most teachers at this school are interested in my child.	3.25	Most teachers in my school are interested in me.	3.35
Sometimes my child doesn’t feel as if he/she belongs in this school.	3.53	Sometimes I feel as if I don’t belong here.	2.76
There’s at least one teacher or other adult in this school who my child can talk to if he/she has a problem.	3.83	There’s at least one teacher or other adult at this school I can talk to if I have a problem.	3.96
People at this school are friendly to my child.	3.70	People at this school are friendly to me.	3.29
Teachers at this school are not interested in people like my child.	4.11	Teachers at my school are not interested in people like me.	3.39
My child is included in lots of activities at this school.	3.36	I am included in lots of activities at my school.	3.37

Psychological sense of school membership			
My child is treated with as much respect as other students.	3.63	I am treated with as much respect as other students.	3.31
My child feels very different from most other students here.	3.06	I feel very different from most other students here at my school.	2.40
My child can really be himself/herself at this school.	3.11	I can really be myself at my school.	2.80
The teachers here respect my child.	3.58	The teachers here respect me.	3.47
People at this school know my child can do good work.	3.63	People at my school know I can do good work.	3.55
My child wishes he/she were in a different school.	3.95	I wish I were at a different school.	3.53
My child feels proud of belonging to this school.	3.30	I feel proud of belonging to my school.	3.12
Other students at this school like my child the way he/she is.	3.12	Other students at my school like me the way I am.	2.90
TOTAL AVERAGE, PSSM – PARENT	3.44	TOTAL AVERAGE, PSSM – CHILD	3.17

3.9.3 Participant definitions of school connectedness

When educators and specialist participants were asked an open ended question, “What is school connectedness?” the participants responses (specialists (93) and educators (102)) were coded into 5 categories. The key themes generated reflected the importance of a feeling of belonging, a sense of community and connection, feeling safe, feeling valued, and good communication. The themes are presented in Table 64.

Table 64: Definitions of School Connectedness Provided by Participants

Theme	Specialist	Educator	Total
Belonging and feeling part of the school	50	43	93
▪ "The extent to which an individual feels 'part' of the school community in a positive manner - the level of comfort and support felt at school." ▪ "school connectedness is when the person feels this is 'my school' and has a sense of pride in being attached to this school."			
Whole community approach	22	34	56
▪ "Parents & educators working together for the best outcome for the student" ▪ "Schools being connected with medical professionals and parents\carers to be informed of what the student's needs are and working together to make appropriate plans to support the student." "Sense of belonging to a community. Understanding of that community and context as a safe space where trusting, respectful relationships may be developed."			
Open communication between stakeholders	4	11	15
▪ "School connectedness is the development of relationships within a school environment and the clear understandings of what happens at school - education, peer relationships, teacher-student relationships.collaborative communication for planning assessment and reporting (including ALL key stakeholders - leadership, parents, teachers, specialists, medical"			
Positive nurturing learning environment	3	7	10
▪ "School connectedness is the school environment that cares for the academic and emotional growth of all its students by caring and nurturing these students and giving them a positive learning environment." ▪ "Use of school as a base of support for stabilising child and promoting positive growth across environments."			
Other	4	4	8
▪ A number of respondents indicated that they had not heard of the term before.			

3.9.4 How is school connectedness achieved?

Participants were asked to share how they felt school connectedness was achieved. The responses highlighted how the importance of school culture, friendships, relationships, valuing difference, communication, collaboration and sense of community helped to achieve school connectedness. The themes and sample quotes are provided in Table 65.

Table 65: Achieving School Connectedness

Theme	Specialist	Educator	Total
Whole school approach	42	52	94
▪ "By the whole school community working towards the best outcome for the students and working with the parents" ▪ "When someone is able to facilitate ongoing collaborative processes - everyone needs to have the child's needs and best interests as a first priority! (sometimes the greatest hurdle are the parents! sometimes the teacher! sometimes the.....)" ▪ "Strong, trusted leadership" ▪ "All staff and aides are made aware of who our ASD students are and are constantly watching, checking, supporting them throughout the day. We have regular meetings with parents, learning support teacher and admin to check we are helping ASD kids in all areas. These are revised each term."			
Communication and respectful relationships	44	47	91
▪ "Collaboration between teaching staff, support staff, administration staff, parents/carers, students and the community. Ensuring the students have an active role in the decisions made that influence them at school." ▪ "RESPECT. We have developed a culture of respect. We are open and honest with our students and parents. We know our students and parents well and most importantly WE CARE about our students."			
Positive learning environment	11	16	27
▪ "By providing support to the individual as and when required. By providing an environment that is inclusive and supports/encourages and models empathy"			
Treating individuals with fairness	1	3	4
▪ "By providing support to the individual as and when required. By providing an environment that is inclusive and supports/encourages and models empathy."			
Other	8	13	21
▪ "Relationships (school/home, teacher/student, student/student			

3.9.5 Enhancing school connectedness

The final question related to school connectedness, participants were asked what things they had done to enhance school connectedness. The responses contained similar themes to other questions on school connectedness, for example, the importance of building relationships, communication and collaboration. However, participant responses about enhancing school connectedness also discussed the importance of curriculum adjustments and support, educating peers and educating the school community. The themes and a range of quotes from educator and specialist participants about their views on how to enhance school connectedness are provided in Table 66 below.

Table 66: Enhancing School Connectedness – Educators and Specialists

Theme	Specialist	Educator	Total
Work with families	23	34	57
▪ "Yes In my past job as Head Teacher Support at a different high school I ran several programs over the ten years I was there to support ASD students and their parents and to raise awareness amongst staff as to the learning needs of ASD students both in support classes and mainstream classes. I tried to raise the profile of ASD students within the school to make sure they were part of the school and given the same rights and success as any other student." ▪ "Absolutely - I always work hard to ensure my students and their families feel like valued members of the school community they are involved with. I liaise with the families to ensure information is passed on to the appropriate people so that it can be actioned in a timely way, I try to ensure teachers have an understanding of the students' and family's needs and that they are seen as valued members of the community - not simply as a 'problem' family with a tricky kid, transition booklets help with the feeling of connectedness as do iPad stories that have photos of the students and their friends in them - they can then take these home and talk about them with their parents, I encourage families to get involved in school events/ groups and I also participate in these events - supporting my students and their families"			
Run programs and opportunities	11	10	21
▪ "Year 7 "Get to Know You" excursion days in the first two weeks of the school year to help students develop positive relationships with students in their new class. Peer Mentor program (Year 10s support new Year 7s coming into the school)" ▪ "lunch time social groups"			
Positive relationships	6	13	19
▪ "I have always tried to make a personal connection with ASD students (and every other student for that matter) so that they feel wanted at the school"			
Education and staff training	8	6	14
▪ "With the positive support of admin over a 4 year period (2008-2012), I financed personal professional development to North Carolina to undertake autism specific training with Division TEACCH, which enabled me to run a Structured Teaching supported classroom. Amazing progress was made by all students both in their school life and their behaviours at home as reported by parents"			
Whole school approach	10	3	13
▪ "Working on collaboration is difficult - when any of the key stakeholders are not genuinely at the table for the right reasons - communication gets lost - the student can become a 'hot potato' - WHEN everyone is on the students' side collaborative communication is always successful!"			
Social support	9	4	13
▪ "Only be supportive, encourage empathy, problem solving, positive relationships in my class (e.g. friendliness, offering support to each other, saying nice things to each other...)"			
Advocacy	8	1	9
▪ "I have pushed for major changes from what has "always been the way" to this suits my student better. I have contacted other schools for help and made it my goal to be an advocate for my student. She gets one shot at school and I'm going to make a mainstream school work for her!"			
Understanding	2	2	4
▪ "To reinforce this... ASD students don't need to be made to feel embarrassed about having ASD"			
Other	15	23	38
▪ "we put in a lot of extra effort, sometimes to the detriment of other students with special needs"			

In contrast, parent participants' views (100 comments) on how to enhance school connectedness were slightly different with an emphasis on educating other students, providing social support and motivating activities to encourage participation and reducing punishment based management and

promoting the importance of the characteristics of the teacher and multidisciplinary support. See Table 67 for the 15 themes that were generated.

Table 67: Enhancing School Connectedness – Parents

Theme	Parents
Educate other students	170
Offer enjoyable activities using students' interests	90
Work with families	79
Social support	77
Train and educate teachers	61
Understand individual students	53
Celebrate achievements and individuals	32
Integrate with mainstream students	24
Encourage involvement and participation	22
Great caring teachers	19
Reduce punishments	17
Safe places	15
Give students responsibilities	11
Multidisciplinary support	6
Other	95

Examples of parent quotes on enhancing school connectedness are provided below:

Educate other students

> *"FRIENDS! I don't know how the school could do it, but we had a fete on the weekend and it was heartbreaking to see the groups of boys in my son's year just messing about with each other and sharing the experience. Max only wanted to hold my hand the entire time and the few attempts he did make to join a group of children were either rebuffed or completely ignored. He doesn't want to be treated like a charity case and have his 'difference' constantly brought to people's attention, however the constant rejection by peers is debilitating. Even as a parent, I feel lonely and rejected - because my son is somehow invisible, so am I."*

> *"There are ways of giving incentives to sports hero's and the popular kids so they are rewarded for helping and supporting kids with disabilities. Teach the whole school about disabilities, make it a subject. for the rest of their lives, they will deal with people with*

disabilities. They are talking about 1 in 2 with an ASD in the USA by 2025. give all the kids strategies and information to help them understand hand help. then reward them! even a 1/4 day of sport every term for helping is bliss for kids - it doesn' have to cost a lot."

"In mainstream settings it would greatly benefit students if they could experience what it is like to live with ASD. Challenge them to try and communicate without words, challenge them to attempt things that they don't like daily, wear things that annoy or distract them (for "normal" students these would need to be big floppy hats oversized or undersized clothing with zippers etc), put earplugs in and see if they can adjust. Just a thought!"

Training teachers

"My boy felt alone, miss understood, not supported. Overwhelmed with noice in mainstream school. Went deaf in one ear 1 year ago and blind in one eye. This environment became a huge barrier. As a 10 year old he would self harm and attempted sucide on numerous occasions because he felt alone in main stream school and couldn't express it in words. Would make a big difference if staff were trained and had the skills to help him have a better outcomes."

Social support

"I'm not sure. We know that friendships are very motivating for our son. He currently says he 'absolutely hates school', except for recess and lunch. So we are hoping that friendships offer some connectedness, even when the classroom doesn't. My son moved to the current school this year for gr4. We were surprised how little the school helped with fostering friendships/orientation/transition. We ended up asking the teacher who our son was playing with and then we promoted friendships outside of school hours with playdates. A buddy system (with a selected buddy a couple of years older) could be helpful to act as a mentor. This seemed to help our son when he was struggling in sports lessons. A kind-hearted friend's daughter (2 yrs older) took it upon herself to be a kind of 'coach' for our son during their sports lessons so he built up his skills and confidence. This was such a great help!"

Great, caring teachers

These were mostly comments about particularly caring teachers, with some also noting teachers who had not provided a warm or caring environment

"Care. My son does distance education because his last school did not care about him at all. They didn't listen to us, and they sure didn't listen to him. He was physically and

emotionally abused.
He was refused toilet breaks (despite us having a note from his GP explaining why this is so important to a child with Ehlers Danlos). I'm sure you mean what type of extra programs could be implemented, but seriously I'd be happy at this stage just knowing my child isn't going to need therapy later on. Besides, most extra programs might sound all good and fuzzy to neurotypicals, but to people with ASD, they're just condescending."

Integrate with mainstream

"One of the huge problems for ASD children in my opinion is a feeling of belonging to something, my son recently got 30 gotchas for good behaviour in one week, which he swapped for team points for his school team, he wants to belong so badly and to furthermore belong to something that will recognise his contribution, in using positive behaviour as well as sporting achievements to gain house points children can be induced to feel included and to make what they consider a worthwhile contribution to their school house. Helping them make those contributions creates inclusion and a sense of belonging imho and they are as they say doing it right at his school. I greatly admire the Principal and think she and he cohort are doing a great job."

Other

This ranged from very positive to very negative comments about their child's school, as well as a range of additional suggestions such as smaller class sizes, access to school uniforms that are the same as mainstream students etc.:

"Nothing for my son. He couldn't feel more connected to his school. He loves to go every morning, he feels safe and happy to be learning."

"Spoke to my son - said he doesn't feel like he belongs to the school, he isn't happy to go to school, he does like to learn and school activities. However when he participates he doesn't feel part of it he feels like he is just a person doing it."

"not make them to have to integrate straight into the classroom each morning, to give them time to transition in, this is difficult as there is not the support there for the teacher or aides to spend with the child at the detriment of the rest of the class."

3.10 TECHNOLOGY AND STUDENTS ON THE SPECTRUM

The use of technology in education, 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, the use of technology in meeting the needs of students on the spectrum was investigated.

3.10.1 The role of technology in supporting students on the spectrum

When asked to indicate what areas of learning could be effectively supported using technology, there was strong alignment 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 (see Table 68). 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 needs in relation to technology support.

Table 68: Technology and Students on the Spectrum

In your experience, please indicate which of the following areas of learning can be effectively supported using technology:	Educator	Specialist	Parent
Academic/learning needs	60.7%	76.8%	71.5%
Communication needs	55.7%	66.1%	64.2%
Social/emotional needs	33.6%	51.8%	58%
Transition needs	31.1%	53%	48.1%
Behavioural needs	29.9%	46.4%	48%
Sensory needs	28.3%	40.5%	46.9%
Don't know	4%	1.2%	2.8%

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. A range of participant comments are provided below:

3.10.2 Commonly implemented technology supports

Educators, specialists and parents were also asked to indicate what technology supports they most commonly implemented to support students on the spectrum. There were a lot of similarities in the response rates from the three participant groups, with all three unanimously agreeing that the most

commonly used technology support was iPads/tablets. Further, although not rating them in the same order, parents and educators agreed that amongst the top five commonly used technology supports were smart board technology, laptops, desktop computers and computer games/software. However, specialists ranked assistive technology in the top five over computer games. Table 69 lists all the responses to the question of most commonly implemented technology supports for the learning needs of students on the spectrum.

Table 69: Technology Supports Most Commonly Implemented to Support the Needs of Students on the Spectrum

What technology supports do you most commonly implement to support students on the spectrum and their learning needs?	Educator	Specialist	Parent
iPads/tablets	51.9%	70.3%	57.3%
Smart board technology	37.2%	35.2%	31.4%
Laptops	35.1%	46.7%	28.7%
Desktop computers	30.5%	35.2%	31.6%
Computer games/software	18%	25.5%	15.5%
Software	17.2%	28.5%	11.2%
Assistive technology	10.9%	30.9%	8.5%
Proloquo2go	10.9%	27.3%	5.5%
iPods	9.2%	20%	6.9%
Kinect X Box/Wii	4.2%	9.1%	5.3%
Digital pens	3%	7.9%	3.6%
Don't know	0%	0.6%	7.7%

3.10.3 Technology and students on the spectrum

Educator, parent and specialist participants were asked to provide additional qualitative comment on the use of technology to meet the needs of students on the spectrum. In addition, participants were asked to describe other technology supports that may be useful to implement to support the needs of students on the spectrum and to identify barriers to technology adjustments being implemented to support the needs of students on the spectrum.

According to the participants, technologies that were commonly implemented to support the needs of students on the spectrum included: AAC devices and software, desktops, tablets, iPads, iPods, laptops, technology apps and software to support not only the learning needs of students on the spectrum, but also to help them relax, as a source of recreation and to support their fine motor and organisational difficulties. In addition, the use of interactive whiteboards, headphones, voice recorders, note takers, digital pens, and Internet search engines such as Google were highlighted. Participants felt that it would be useful to implement technology more regularly and for all students

to have more access to a range of different technologies and technology applications, as well as being able to use technology in an integrated way within the classroom for learning, assessment purposes, homework and fun. Additionally, from the participants' perspectives, similar to other areas of learning, the key barriers to using technology to support the needs of students on the spectrum included: a lack of funding, resources, training, time, lack of access to knowledge about what was available and how to use it and how to fund its use, as well as lack of adequate staffing and support.

Participants had the opportunity to share in open ended questions other ways they commonly used technology to support the needs of students on the spectrum. Comments suggested technology was commonly used in a range of different ways to support the needs of students on the spectrum. In some cases, technology was not used or used in a limited fashion, e.g., "We have none of these resources in our school", "Often nothing more than other kids get – i.e., limited time on computer/iPad". In other cases parents paid for and supplied the technology to the school: "We paid for ours. Other parents can't. For us it was just quicker and the results have been life changing. Writing is my son's gift and he lost it when his teacher insisted on him using a pencil. That was last year, this year we have a laptop again and he is writing parodies of Shakespeare". In some situations technology was highlighted as a strong focus for all students in the school: "Our school uses a lot of technology for all students. I am unaware of any special provisions for ASD students". However, in most instances, examples were provided of technology being commonly used to support a range of specific needs of students on the spectrum. Examples of participants' comments appear below:

When asked to identify barriers to implementing technology supports for students on the spectrum. Participants' comments were categorised into 5 themes that identified barriers to the implementation of using technology supports. Themes included including: 1) funding and lack of resources, 2) knowledge, 3) lack of support staff and time, 4) technological issues, and 5) other (see Table 70 below).

Table 70: Barriers to Implementing to Technology Supports

Theme	Specialist	Parent	Educator	Total
Funding and lack of resources	19	165	32	216
Knowledge	11	50	13	74
Lack of support staff and time	10	45	10	65
Technological issues	4	0	2	6
Other	0	17	5	22

3.11 TELECONSULTATION APPROACHES TO SUPPORTING THE NEEDS OF STUDENTS ON THE SPECTRUM

Teleconsultation uses a human/technology interface to assist in catering 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.

3.11.1 Participants' perceptions of a teleconsultation approach

Due to emerging research around the use of a teleconsultation approach for the needs of students on the spectrum, questions about teleconsultation were asked in the needs analysis for educators and specialists to answer. In response to statements in the survey about a teleconsultation approach, educators and specialists using a 5-point Likert scale (1 = strongly disagree and 5 = strongly agree) indicated how much they agreed with statements about this type of approach and its effectiveness in supporting the needs of students on the spectrum and the staff working to support these students. The average response rates were perfectly aligned with both groups agreeing in the following order 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. The full list of responses is provided in Table 71 below.

Table 71: Specialist and Educator Perceptions of a Teleconsultation Approach

How much do you agree that a teleconsult model could do the following:	Educators	Specialists
Reduce travel time and costs involved in receiving additional support and services	4.15	4.23
Improve access to support and services that you do not have in your area	4.07	3.94
Improve school based staff's access to specialist support and services to meet the needs of students on the spectrum with challenging and complex behaviours	4.02	3.90
Increase the rate of liaising and collaboration between specialist support and services with school based staff	4.00	3.91
Allow for better use of specialist personnel and resources by increasing the rate and frequency which support is delivered	3.98	3.90
Reduce the time it takes specialist support and services to respond to a request to support a student on the spectrum with complex and challenging behaviours	3.95	3.85
Meet the need for specialist support and services by school based staff and students on the spectrum with challenging and complex behaviour	3.80	3.63

How much do you agree that a teleconsult model could do the following:	Educators	Specialists
Be an effective way of delivering specialist support and services	3.73	3.56
Total Average	3.96	3.85

3.11.2 Educators' and specialists' impressions of a teleconsult approach

From the participants who provided comments about their impressions of the teleconsult approach:

- 137 educators and 86 specialists had not used a tele-consult
- 14 educators and 43 specialists had used a tele-consult.

Many elaborated, with a mix of positive and negative comments, discussing a range of issues such as remoteness, technological issues and a lack of follow up. For example, amongst participants who had not used a tele-consult approach feelings were mixed about its effectiveness:

> *"No. It could supplement the minimal support we get but real contact and observation of students is still the best way to go. Each individual is different and should have a plan specific for them."*

> *"No not used. concerned that face to face is a better model for a period of time. then this may be applicable after initial face to face work has been done. the model of ongoing school visits by Paul Keller has been the most effective way to deliver PD for teachers of autistic students and could now be enhanced by this model but not replaced"*

> *"Never enough time in the day to log on for such types of things and half the time the technology in schools is crap, outdated and not working or the servers are too inadequate to cope, especially the wireless connections. Special Ed programs usually end up with the dregs of technology after it's been used for years in a classroom and only when the classroom ones have been updated, WHEN would teachers get the time off class to do this????! Just doesn't happen!"*

> *"No - bit hard when the internet out here is rubbish"*

Similarly, feelings were also mixed about its effectiveness amongst participants who had previously used a tele-consult approach before:

> *"Teleconsult is excellent mode of communication -All stakeholders can participate in the one conversation."*

“Not great - lots of advice - no follow through and if I cannot see it in action or the expert showing me then less likely to take up the advice”

‘’Tele consult psychiatry: better than nothing but not as good as face to face interaction. More impersonal and distant. Follow up was a problem.

“Yes, but most of the external agencies I deal with are willing to meet at my school. I find it really hard to "escape" for that period of time to have a phone conversation, without being called upon to assist with behavioural support for one of my students. Also, the DOCS worker had only just taken over the case, and didn't know anything about the student at all.”

“Teleconferencing has been helpful as even in a city area it can be difficult to physically get people together and travel time can also be considerable”

“Case conference with psychiatrist. Very good for information. Felt included in planning and treatment process. Felt part of a team rather than alone”

It was common for participants to feel that a teleconsult approach needed to be done in combination with face-to-face visits or after initial face-to-face visits had occurred. Access to good internet provision and quality technology were highlighted as important with this type of approach. It was also felt that the teleconsultation approach still needed access to context specific information and generally it was felt it was important for rapport and relationships to be established prior to this approach being used.

3.11.3 Trialling a teleconsult approach

Educators and specialists were also asked if they would be prepared to trial a teleconsult approach to support the needs of students on the spectrum they supported. Of those participants who were definitely interested in trialling a teleconsult approach, specialists (40.5%) were more interested in trialling this approach than educators (28.8%). A further 40.5% of educators and 38.2% of specialists indicated they might consider trialling this type of approach, while 30.7% of educators and 21.4% of specialists were not interested in trialling it at all.

3.12 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 of age. The students were asked a range of questions about their educational needs and completed measures for anxiety, depression, school connectedness, and their strengths and difficulties. Students who participated in follow-up interviews were asked questions to gather further qualitative information on their educational needs.

3.12.1 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. These are listed in Table 72. The students were asked to answer on a 5-point scale (1 = very hard and 5 = very easy) with additional options of "not sure" or "don't want to answer". The following information was obtained from students about the challenges they faced completing activities and engaging with others at school. 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.

Table 72: Student Perceptions of the Level of Challenge of Some Educational Activities

Hardest Rated Activities	Learning needs of students (Scale 1-5 1= very hard, 5 = very easy)	Students
1	Planning for assignments	1.64
2	Working as part of a group	1.76
3	Handwriting – being neat	1.77
4	Coping with change (e.g., changes in teachers or the timetable)	1.83
5	Coping with bullying or teasing	1.86
6	Handwriting - being quick enough to keep up	1.93
7	Copying information from the board	1.95
8	Doing homework	1.98
9	Staying calm when other kids annoy me	2.00
9	Staying calm when the classroom is very noisy	2.00
10	Talking in front of the class	2.05
10	Starting tasks	2.05
11	Essay writing	2.10
12	Completing tasks	2.12
13	Understanding what I need to do	2.14
14	Copying from the board	2.17
14	Staying calm when adults annoy me	2.17
15	Maths	2.19
16	Making friends	2.24
17	Writing for tests	2.26
17	Not focussing too much on my special interests	2.26
18	Doing tests	2.29
19	Knowing what I need to do	2.31
20	Relaxing	2.37
21	Having a conversation	2.44
22	Listening to the teacher	2.49
23	Getting along with others in the playground	2.59
24	Following the teacher's instructions	2.60
24	Talking to others	2.60
25	Understanding the PA system	2.62
26	Story writing	2.65
27	Reading for tests	2.66
28	Getting along with others	2.71
29	Reading for understanding	2.78
30	Understanding other students	2.86

Hardest Rated Activities	Learning needs of students (Scale 1-5 1= very hard, 5 = very easy)	Students
31	Doing as I am told or what is asked	2.88
31	Getting to school	2.88
32	Doing as I am told	2.93
33	Taking turns	2.95
34	Reading for enjoyment	3.26

Student qualitative comments (20) on the things they found the most challenging at school were coded into the following 4 categories:

1. **Social issues (6) e.g., keeping friends, bullying, lunch times and breaks.**

   "The playground when my friends are not there, coping with my fear of failure"

   "Dealing with bullying"

   "Dealing with idiots who think they know I did things when I didn't"

   "I am not like the other kids"

   "Keeping friends"

2. Academic issues (4) e.g., writing, tests, taking time to understand assignments

   "Once I understand an assignment I can do it easily. It takes me time to get it."

   "Tests depend what subject"

   "That people think I'm not clever. That what I'm good at isn't seen"

3. Sensory issues (3) e.g., fluorescent lighting, assemblies, noise

   "Eating fruit and vegetables, eating recess and lunch, getting picked on at recess and lunch, sports time, any unstructured activities"

   "Being in undercover assemblies, because of noise and heat."

   "I find fluorescent lighting in classrooms difficult when my sensory sensitivity is heightened. I am able to go outside provided it's not too bright outside. Otherwise, I'm able to use a quiet, dimly lit classroom."

"Sudden loud noises"

"Writing hurts my hand and I'm slow. I like to talk about movies."

4. Other (8) e.g., eating, talking about movies, staying awake, coping with a fear of failure etc.

   "I don't want to go to school"

   "Listening to parents"

   "Staying awake"

3.12.2 Students' perceptions of helpful support options

When asked to identify what were some things the students themselves think would help them at school on a 5-point scale (1 = very unhelpful and 5 = very helpful) students indicated a range of support options. Overall, being able to use technology to support their educational needs in a variety of ways (e.g., to type or help with school work) came out as one of the most significant support options identified by students. 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: a) being reminded of pending changes; b) getting copies of things teachers wrote on the board; c) using special interests to do projects; d) help with organising themselves; e) receiving rewards for jobs well done; f) a quiet space to do assessment; and, g) 1:1 help from an adult. Table 73 describes the average ranking of all support options by students completing the survey.

Table 73: Average Ranking of Support Options Students Perceived Would be Helpful at School

Top Rated Supports	What are some of the things that you think would help you at school? (Scale 1-5: 1 = least helpful, 5 = most helpful)	Student
1	Being able to use technology to help with my school work (e.g., iPad or laptop)	4.51
2	Being able to use technology (e.g., laptop) to type instead of handwrite	4.49
2	Being able to take a break	4.49
3	Time away from others when I need it	4.36
4	Being reminded when a change is going to occur	4.31
4	Getting a copy of the things the teacher writes on the board	4.31
5	Doing projects on special interests	4.26
6	Help to organise myself	4.24
7	Receiving rewards for doing things well	4.23
7	A quite space to do assessment	4.23

Top Rated Supports	What are some of the things that you think would help you at school? (Scale 1-5: 1 = least helpful, 5 = most helpful)	Student
8	1 on 1 help with an adult	4.21
9	Extra time for assignments	4.15
9	Help to organise my assignments	4.15
10	Checklists	4.13
11	Extra time for exams	4.08
12	Help with homework	4.03
13	Extra help from a teacher or teacher aide	3.95
14	Being able to go to special lunchtime activities	3.92
15	Setting goals	3.90
16	Visual timetables	3.87
17	Being able to sit on my own at lunchtime	3.86
18	Working on my own	3.72
19	Having someone write for me in exams	3.64
20	1 on 1 help with a friend	3.50
21	Social help (e.g., learning how to get on with others, make friends)	3.47
22	Support from a friend at lunchtime	3.45
23	Working in small groups	3.26

Additional qualitative comments from students (17) about things they find most helpful identified 4 key themes. These included:

1. Empathic, patient teachers (3)
2. Social support and friendships (3)
3. Interesting work (2)
4. Other (9) e.g., games, shorter days, quieter classroom, listening to music at school, professional teacher (rather than distance education from home)

   "I get into trouble all the time at school for things I can't control talking loud getting too close to other people interrupting I don't mean to do this stuff my brain just does it I hate my brain"

3.12.3 Additional student perspectives

Student comments (27) about the things they enjoy or like doing were coded into the following 5 categories:

1. Games and technology (16)
2. Sports and physical activities (9)
3. Academic, music and art (5)
4. Family and home activities (9)
5. Other (2), including fixing things and having friends visit

While comments (25) on things students felt easy to do were coded into the following categories:

1. Technology and games (8)
2. Academic work (e.g., maths) (7)
3. Sports and physical activities (5)
4. Other, e.g., nothing, listening to music, staying out of fights, writing letters, doing chores etc. (8)

3.12.4 Students' 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. At school the second most commonly used technology was a desktop computer, on average between 3-4 days per week. This was followed by iPads 2-3 days per week. In comparison, in the home setting, the second most commonly used technology was an iPad between 4-5 days per week, followed by desktop computers 3-4 days per week and then Facebook on average 3-4 days per week. The least common technologies used in both setting were iPods, Skype and Twitter. Facebook was also minimally used in the school environment. At home students indicated they used all of the above 5-6 days per week in comparison to school where it was 1-2 days per week. Table 74 summarises the key student responses to this question.

Table 74: Student Technology Use at School and Home

Type of Technology	How often do you use these things at school? (days per week)	How often do you use these things at home? (days per week)
Laptops	3.98	4.82
Desktop computers	3.80	3.54
iPads	2.44	4.39
iPods	1.32	2.82
Skype	1.29	2.11
Facebook	1.29	3.02
Twitter	1.00	1.30
All of the above	1.43	5.71

When students were asked what technology would help them at school most students (39) provided comments and these were coded into 4 key categories linked to technology:

1. Computers and laptops (14)
2. iPads, iPods or tablets (10)
3. Music (2)
4. Other (14) e.g., assistance with writing, video, games, earphones, count down timers, skype etc.

Similarly, when asked what technology supports they would prefer to use in school students (43) comments were coded into the following themes:

1. Computers and laptops (16)
   "I enjoy using computers and laptop as handwriting is a little difficult for me. I can't write more than 200 words without my hand cramping. I use computers and laptops a lot though."
2. iPods, iPads or tablets (15)
3. Don't know (7)
4. Other (5) e.g., calculators, Facebook and voice activated software

3.12.5 Student wellbeing: Descriptive results from the student survey

The student survey incorporated wellbeing measures including: a) the Strengths and Difficulties Questionnaire (Goodman, 1997); b) the Spence Anxiety Scale (Spence, 1998); and, c) the Children's Depression Inventory (2nd ed) (Kovacs, 2010). A snapshot of the overall results from these measures is now described.

Only 32 participants reported their gender. The majority were males (75%) with a mean age of 15.39 years and a range of 11-20 years.

3.12.5.1 Strengths and Difficulties Questionnaire

A total of 48 (out of 107) students completed the Strengths and Difficulties Questionnaire (see Table 75 for overall results.

Table 75: Strengths and Difficulties Overall Scores

Subscales	Mean	SD	Possible Range
Emotional Symptoms	6.26	2.58	0-10
Conduct Problem	3.13	2.61	0-10
Hyperactivity	6.36	2.85	0-10
Peer Problem	5.47	2.88	0-10
Prosocial Behaviour	6.39	2.10	0-10
Total Difficulties	21.28	8.34	0-40

Note. Prosocial behaviour is not included in the total difficulties score.

Students' scores on each subscale were categorised as 'average' (normal), 'slightly raised' or 'substantial risk' of clinically significant problems in a specific area (see Table 76, 77, and 78).

Table 76: Strengths and Difficulties Questionnaire Scores

Subscales	Average f (%)	Slightly Raised f (%)	Substantial Risk f (%)
Emotional Symptoms	17 (35.4)	6 (12.5)	25 (52.1)
Conduct Problem	32 (66.7%)	3 (6.3%)	13 (27.1%)
Hyperactivity	19 (39.6%)	3 (6.3%)	26 (54.2%)
Peer Problem	11 (23.4%)	12 (25.5%)	24 (51.1%)
Prosocial Behaviour	33 (68.8%)	6 (12.5%)	9 (18.8%)
Total Difficulties	15 (31.3%)	6 (12.5%)	27 (56.3%)

Table 77: Strengths and Difficulties Questionnaire Score – Category Ranges

	Average	Slightly Raised	Substantial Risk
Emotional Symptoms	0-5	6	7-10
Conduct Problem	0-3	4	5-10
Hyperactivity	0-5	6	7-10
Peer Problem	0-3	4-5	6-10
Prosocial Behaviour	6-10	5	0-4
Total Difficulties	0-15	16-19	20-40

Table 76 demonstrates that in the sample of 48 students, 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).

3.12.5.2 Spence Children's Anxiety Scale

A total of 46 (out of 107) students completed the Spence Children's Anxiety Questionnaire. Table 78 suggests 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.

Table 78: Spence Children's Anxiety Scores

Subscales	Mean	SD	Possible Range
Separation Anxiety	6.73	5.05	0-18
Social Phobia	9.76	4.38	0-18
Obsessive Compulsive	6.27	4.99	0-18
Panic/Agoraphobia	8.16	6.43	0-27
Physical Injury Fears	5.02	3.98	0-15
Generalised Anxiety	9.35	4.80	0-18
Total Score	44.61	24.76	0-114

When the results were then categorised as low, moderate or high (see Table 79 and 80), it can be seen that approximately one third of participants reported high levels of social phobia and generalised anxiety.

Table 79: Categorisation of Spence Children's Anxiety Scores

Subscales	Low	Moderate	High
Separation Anxiety	24 (53.3%)	14 (31.1%)	7 (15.6%)
Social Phobia	11 (24.4%)	20 (44.4%)	14 (31.1%)
Obsessive Compulsive	29 (64.4%)	10 (22.2%)	6 (13.3%)
Panic/Agoraphobia	26 (57.8%)	15 (33.3%)	4 (8.9%)
Physical Injury Fears	26 (56.5%)	16 (34.8%)	4 (8.7%)
Generalised Anxiety	16 (34.8%)	16 (34.8%)	14 (30.4%)
Total Score	19 (41.3%)	21 (45.7%)	6 (13.0%)

Table 80: Spence Children's Anxiety Scores – Category Ranges

	Low	Moderate	High
Separation Anxiety	0-6	7-12	13-18
Social Phobia	0-6	7-12	13-18
Obsessive Compulsive	0-6	7-12	13-18
Panic/Agoraphobia	0-9	10-18	19-27
Physical Injury Fears	0-5	6-10	11-15
Generalised Anxiety	0-6	7-12	13-18
Total Score	0-38	39-76	77-114

3.12.5.3 Children's Depression Inventory (CDI)

A total of 44 (out of 107) students completed the CDI questionnaire. Table 81 indicates that overall, participants reported low levels of negative mood, interpersonal problems, ineffectiveness at undertaking school work, anhedonia (inability to experience pleasure) and negative self-esteem.

Overall, participants reported moderate levels of depression (M= 19.18).

Table 81: Child Depression Inventory Scores

Subscales	Low	Moderate	High
Negative Mood	31 (68.9%)	9 (20.0%)	5 (11.1%)
Interpersonal Problems	36 (80.0%)	7 (15.6%)	2 (4.4%)
Ineffectiveness	19 (42.2%)	19 (42.2%)	7 (15.6%)
Anhedonia	20 (44.4%)	23 (51.1%)	2 (4.4%)
Negative Self-Esteem	34 (75.6%)	8 (17.8%)	3 (6.7%)
Total Score	22 (48.9%)	20 (44.4%)	3 (6.7%)

When the results were then categorized as low, moderate or high (See Table 82 and 83), it can be seen that the majority of participants reported moderate levels of ineffectiveness (42.2%) and anhedonia (51.1%). Low levels were reported for negative mood, interpersonal problems, and negative self-esteem.

Table 82: Categorisation of Child Depression Inventory Scores

Subscales	Low	Moderate	High
Negative Mood	31 (68.9)	9 (20.0)	5 (11.1)
Interpersonal Problems	36 (80.0)	7 (15.6)	2 (4.4)
Ineffectiveness	19 (42.2)	19 (42.2)	7 (15.6)
Anhedonia	20 (44.4)	23 (51.1)	2 (4.4)
Negative Self-Esteem	34 (75.6)	8 (17.8)	3 (6.7)
Total Score	22 (48.9)	20 (44.4)	3 (6.7)

Table 83: Child Depression Inventory Scores – Category Ranges

	Low	Moderate	High
Negative Mood	0-4	5-8	9-12
Interpersonal Problems	0-3	4-6	7-8
Ineffectiveness	0-3	4-6	7-8
Anhedonia	0-6	7-12	13-16
Negative Self-Esteem	0-3	4-6	7-8
Total Score	0-18	19-36	37-52

3.13 SUMMARY OF KEY FINDINGS

The Autism CRC Australian Autism Educational Needs Analysis used a nationwide survey to obtain information from four key stakeholder groups including educators, specialists, parents, and students on the spectrum (11-18 years). Further information was obtained from follow-up interviews with some participants. 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.

Key findings from the research

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.

3.13.1 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.

3.13.2 Sensory needs of students on the spectrum

There was strong agreement across educators, specialists and parents around the sensory experiences which had the most 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.

3.13.3 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.

3.13.3.1 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.

3.13.3.2 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

3.13.3.3 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.

3.13.4 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.

3.13.5 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.

3.13.6 The role of technology for 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.

3.13.6.1 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.

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.

3.13.6.2 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.

3.13.7 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.

3.13.7.1 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.

3.13.7.2 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.

3.13.8 The role of technology in student's lives

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

3.13.9 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.

3.13.10 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:

1. face-to-face professional development from a professional organisation;
2. observation of others' practice (real life);
3. face-to-face seminars;
4. professional support methods (e.g., coaching); and
5. 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).

3.13.11 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.

Educators and specialists agreed that a teleconsultation approach could:

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

4. Limitations

The relative success of the recruitment approaches employed in this study influence the ability to apply and generalise the information. Although every identifiable means (within the scope of this study) was used to engage as broad a spectrum of participants from each participant group as possible, the study had the following limitations:

- restricted timeframe,
- the reach of the recruitment methods used given the time frame, and
- restrictions imposed by the time frame of the study on the ability to adjust surveys and interviews to cater to the needs of participants with English as a second language, and students on the spectrum who were non-verbal, had limited communication or academic skills, or had an additional intellectual disability.

In addition, one of the key limitations of the study was the survey length. Moreover, there was no save function available to participants so that they could stop and come back to the survey at another time to finish it off. The surveys took participants a minimum of 1-1.5 hours to complete hindering time-poor stakeholders from completing the survey or completing all questions. The students' surveys took a minimum of 30 minutes to complete, making it a challenge to completion.

Furthermore, while every effort was made to provide a range of modes for participant engagement in interviews due to time, budgetary and ethical constraints, options for interviews were limited to face-to- face, phone, teleconference and email.

5. Implications

As stated earlier, the Australian Autism Educational Needs Analysis (ASD-ENA) project aimed to produce the first Australia-wide needs analysis of students on the spectrum (aged 5-18 years) and their educational needs. The needs analysis aimed to identify what the educational needs of the autism community were by collecting information from four key stakeholder groups. The data collected in this research project has implications for both future research and practice.

5.1 IMPLICATIONS FOR FUTURE RESEARCH

The needs identified by stakeholders in this research will inform future research in the field of autism and, specifically, in relation to supporting students on the spectrum and their educational needs. In order to maximise the success of students on the spectrum and to maximise their learning in educational settings, the needs analysis would suggest educational research requires:

1. A specific focus on research which explores how to more successfully cater to the specific characteristics of students on the spectrum in educational settings; for example, the social emotional, behavioural, communicative and sensory needs to maximise success.
2. Exploration of how to more successfully integrate support for the wellbeing of students on the spectrum within educational settings.
3. Investigation of how to reduce barriers to the implementation of support strategies which meet the needs of students on the spectrum in educational settings.
4. Providing a stronger evidence base for strategies stakeholders commonly implemented with students on the spectrum within educational settings to meet their needs.
5. Further investigation of how to more effectively implement strategies which utilise the strengths and preferred support strategies of students on the spectrum is recommended.
6. Exploration of more technology based supports for students on the spectrum in classrooms.
7. Examination of the environmental considerations required to support students on the spectrum in classrooms.

5.2 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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Appendix

PARTICIPANT FURTHER AND FINAL COMMENTS

Participants had the opportunity to provide further and final comments at the end of the survey which provided further valuable information about the educational needs of students on the spectrum.

Further Comments

Among the further comments participants provided, educators (34), specialists (37) and parents (251) and students (9) responses were coded into the following 6 themes (see Table 1).

Table 1: Themes Generated from Further Comments

Themes	Student	Specialist	Parent	Educator	Total
Needs and recommendations	2	22	183	34	241
Experiences of schooling	3	1	67	1	72
Survey	1	12	29	6	48
No further comment	4	8	13	9	34
Thank you	0	1	5	2	8
Other	0	3	26	3	32

Theme 1: Needs and Recommendations

There were 241 comments that outlined educational recommendations and identified further needs of students with autism in schools. These needs and recommendations were coded into the following 7 sub-themes (see Table 2).

Table 2: Needs and Recommendation Sub-Themes

Theme	Student	Specialist	Parent	Educator	Total
Funding and resources	0	5	60	3	68
Training	0	5	35	8	48
Individuals and schools recommended	0	0	7	2	9
Specialists	0	2	4	0	6
Specialist classes or schools	0	0	5	1	6
Other	1	2	9	3	15

Issues related to inadequate funding and resources were paramount in the further comments provided from all participants.

> *"I would like to see better funding in rural and regional areas, we miss out a lot. urban schools have so much more. More education of teachers is needed desperately." (Parent)*

> *"ASD is being more widely diagnosed so funding in this area should be increasing and expanding. Early intervention programs are being scaled back to save money. This is a false economy. Students who get extra support early on are going to be able to make valuable contributions to society. If students are denied this they may well end up being a drain on the public purse as they may require a disability pension or similar and be unable to live up to their potential and this would be a criminal shame." (Educator)*

> *"Unfortunately main stream schools lack funding supports for ASD students. Education department is constantly moving the 'bar' for eligibility for funding. The higher functioning ASD students not funded for assistance. School budget getting smaller and smaller each year and the number of ASD students increasing. My sons school has lost 5 very experienced aids in the last two years." (Parent)*

> *"I think the ones allocating funding, resources, staff, etc really don't acknowledge the increase in the incidence of students with ASD therefore, those who need a little bit of help miss out totally and those who need a lot of help don't have their needs met either." (Parent)*

In addition, lack of training and support for training was also raised.

> *"Successful schools in the US have access to up to date research, children are adequately supported and the program is supervised (both at home and at school) by PhD or BCBA personnel. All the research indicates that children with ASD MUST be supervised and have therapy provided by suitably qualified personnel. Teachers have the support and guidance of these qualified people. There are NO suitably qualified people supporting our students with ASD in West Australian Schools!" (Educator)*

Teacher and community attitudes were also promoted as essential elements in meeting the educational needs of students on the spectrum.

> *"Teachers need to not only complete a bachelor of education certificate but they need to understand that everybody has a right to learn and we all learn differently. We also have*

different needs are requirements in our learning as well as how they are approached as people. We need to show them the same respect as we expect from them." (Educator)

"I think that while it is fantastic my son is able to go to a "normal" school and be made to fit in with all the programmes it must be remembered that he is not like all the other kids in how he thinks and that what others think normal and easy is a lot of work for ASD children. Teachers need to be aware that as much as it seems easy for the rest of the class, ASD children can struggle. Understanding and patience are needed, not detention threats." (Parent)

Some respondents identified particular schools and programs for further investigation:

"Again please look at United Nations Press Briefing which can be found at goldenhatfoundation.org (scroll along clips just below heading on homepage)." (Parent)

"There is resistance to offering the right supports for students with ASD - the expectation being that they should learn to 'fit' the 'real world'. It sets them up to fail. Happy for you to come and visit Northern School for Autism and see the great work we do." (Educator)

"Adelaide North Special School is a frontier in special education" (Parent)

The need for access to additional specialised support was also reinforced.

"School is not generally a good experience for many people with ASD either academically, socially, emotionally, sensory or behaviourally though many of the behaviour issues come from not coping with the academic requirements especially if the Education system failed to teach you to read/write/spell, provide Speech Therapy programs, access to OT's, protect you from bullying from adults as well as students. Services such as the AVT/ASD need to be maintained - rather increased in our area and I know for a fact they are needed in other areas. The general population do not want to understand or accept ASD."

In addition, the need for more specialist classes or schools was reinforced by participants.

"There needs to be MORE SPECIALIST AUTISM SCHOOLS. There should be a choice - currently we don't have that. There are so few autism specialist schools that they are zoned with huge waiting lists. So many kids are missing out." (Parent)

While other comments that were provided addressed the importance of meeting all children's educational needs and having a focus beyond data driven accountability.

"Some classes can have up to 5 or 6 students with ASD and severe behavioural disorders. The safety of ALL the children is paramount and seems to be disregarded as the needs of the students with ASD often seem to be seen as more important than the needs of the others to feel safe at school". (Educator)

"I think schools are too busy trying to get good scores and NAPLAN …….. If Principals are not on board and understanding ASD then it will not be passed down. They are all different so everyone needs something different." (Parent)

Theme 2: Experiences of Schooling

There were a variety of comments regarding the experiences of schooling. Many of these related to inadequate funding leading to poor experiences, often despite the best attempts of teachers. Some comments related to lack of trained teachers and support staff, while some related to uncaring and judgemental teachers and administrators.

"I was homeschooled for a number of years which was miles better than primary school. If I hadn't done that I would never have got to cope in full time school" (Student)

"Schools have such a lack of support for ASD kids - especially ones with Anxiety, self harming & suicidal tendencies. My daughter would hide under a school building to self harm as she was not coping with what was happening in and out of the classroom. Teacher & Principal did not listen to how to handle her....even to point of punishing her for self harming!!!! After many meetings and calls with Dept Head even with no results I pulled my daughter out for her own sake and on psychologists and paediatrician's advice." (Parent)

"There are so many children that are homeschooled who have ASD because the school system, even small private schools, cannot meet their needs." (Specialist)

"The Education department has let down my child and its another stress and grief to have to cope with. Very disappointed about my child's human rights not being met in so many ways. Participation, communication and physical requirements. She has missed out on years of learning because schools are not supported to know how to effectively educate kids on the spectrum." (Parent)

"The school I work at is amazing - for ASD students and all students with special needs. It is a genuine community - despite lots of differences (abilities and disabilities) students look out for each other. Respect, respect, respect. It also has a pretty happy vibe." (Educator)

"I am currently teaching one identified ASD student (Level 1:mild) with no assessed comorbidities in a mainstream classroom and have responded accordingly. All my background is self-taught {through raising my own son (ASD Level 1 mild; ADHD)} and I am concerned that most teachers have little to no information about communicating and working with these students in a mainstream setting. Our school also has an LSU with several ASD students with higher needs which are addressed by specialist staff - my feeling is that we all need, at minimum, training in how to communicate with our ASD students and have some understanding of their behaviours.. I've been reading about the development of specialist schools catering for the social needs of high functioning/Asperger's ASD students overseas and would be interested to find out the pros and cons of such schools." (Educator)

"During a decade of being a parent of children with ASD at school I've have some varied experiences. Some great teachers, some not so great and one downright useless. Communication is hugely important and a simple technology to facilitate this is email - but only if the school supports it and the teacher provides the option, which hasn't happened in our case. Understanding that children with ASD often have low muscle tone and poor fine motor skills and potentially pain relating to hypermobile joints I fail to see the insistence of some schools that everything is completed in pencil when the use of technology could achieve faster, better results. It's time the education system caught up with the outside world. As said before, there is NO help available for children that are NOT diagnosed." (Parent)

"Process for diagnosed is complex enough for parents, school forms and EAP process is way too complex and not fair only yearly. So many miss out and fall in the gaps" (Parent)

"At my son's school, no assistance is provided unless DEECD funding is available. We have been waiting for two terms for his application to be assessed, despite his having been funded for the past 8 years in every other setting, both State and Federally funded" (Parent)

"This year is his first year at the school. So far it is very supportive with a relatively large number of children on the spectrum. Though my son is not funded he receives some support from the school. However he is in the gifted classes which has no classroom aids or support. Just because my son's IQ is above normal, I feel the government discriminates

against him in respect to offering him the support he needs. I especially feel this way after his experience at primary school by a hateful principal forcing us out of the public system and having to pay a huge amount of money to educate him in a private specialist school for 5 years - that was beyond our means. I believe the government needs to be educated about ASD." (Parent)

"My son has no aide and he is in a classroom with 6 other kids on the spectrum and they have no aide funded for any of them" (Parent)

"My child is a very high functioning, smart little girl who is lucky to go to a small school with a dedicated and caring teacher. Since she has turned 7 we don't have the money to continue with OT and psychologists sessions and I wish these services could be provided in schools or the age for funding be increased. I am very concerned about my child should the teacher she has leave and especially concerned about her transition to high school - even though that is a few years away yet." (Parent)

"We have had a struggle to have our sons needs recognised and have help put in place. I am looking into home schooling as I am certain no child should feel constant anxiety and criticism from adults in a learning environment." (Parent)

"We are removing all of our children from the school and engaging in homeschooling as we want their needs met" (Parent)

Theme 4: Thankyou

A lot of comments were provided providing thanks for conducting the research.

"I am really excited to finally see progress being made in this area. It has been a long time coming and hopefully it leads to better educational outcomes and support for my child and others with ASD." (Parent)

"I am happy to communicate at length. I am passionate about the plight of the non verbal autistic population, having witnessed first-hand how my boy's life has been transformed, and he can now type almost independently (hand on shoulder). Please, for the sake of these children, do something. Please. S. phone: XXX.XXX.XXXX" (Parent)

Theme 5: Other Comments

"Other" comments provided a range of further views about the educational needs of students on the spectrum and how they need to be supported.

> *"I am a rare respondent - I am both a principal and a parent of 3 children (now young adults) who have a diagnosis of ASD. They need to be scaffolded for life. Our family was part of the DNA testing for ASD characteristics about 15 years ago. Although my children are very successful as we are always in the background providing help when needed (like any other parent), I have become greatly aware of the lack of support after school/uni is completed.*
> *Please ring me for more input in this area – xxx-xxx-xxxx at work or mobile xxx-xxx-xxxx. Two of my son's teachers deserve a place in heaven as they willingly took him for a second year in a row as they need he would lose so much time in learning his next teacher. He has completed a Honour's degree in Biochemistry at James Cook University in Townsville and has been looking for work for 4 years."*
>
> *"I think that schools need to learn that inclusion is not just allowing a child on the campus, it is much more and needs to be a collaborative and involved process. Too many children are stuck in a corner doing busy work. All students have a value and a future that is worth our time." (Educator)*
>
> *"I have learning difficulties and most likely ASD myself. I have seen it through my generation and now my children and still today there's a group of children that are still missing out. They are still falling through those cracks that shouldn't be there anymore. I believe I even had more special education than my children did. My son had a full time teacher's aid in Prep and was at the same level as his peers at the end. Now in year 2 he's so far behind and get minimal special education. Children won't grow out of their learning disabilities and if we don't help them while they're young and taking all the information around them. I know with the right help and support while they're young they can achieve anything they want. Though education in Australia really needs to get up to date. We've considered moving overseas because we don't think the Australia Education is able to meet the needs. Though why should we leave ? There's nothing stopping Australia from catching up and if other countries can afford to do this so can we.*
>
> *"There is a culture in schools to suspend children with ASD multiple times as young as kindergarten. Parents report significant difficulties when dealing with schools and DET. any*

abuse allegations are often ignored and swept under the carpet. There is a trend now for parents to home school their child with ASD due to the significant difficulties experienced in identifying an appropriate school. The impact at home is significant and parental stress, child mental health, parent-child relationships and marital relationships can be negatively impacted."

Final Comments

Similar to the further comments final comments provided by participants (Educators (27), specialists (34) and parents (190) and students (16)) were coded into the following 6 themes (see Table 3).

Table 3: Themes Generated From Final Comments

Theme	Student	Specialist	Parent	Educator	Total
Thank-you comments	2	10	69	4	85
Needs and recommendations	2	5	46	6	59
Survey	2	18	24	9	53
Comments about schooling	5	0	28	0	33
Other	6	2	17	4	29
No further comment	0	1	13	5	19

Theme 1: Thank-you Comments

A range of thank you comments were provided as part of the final comments

"Thank you for caring about me. I like you! From David xoxoxox" (Student)

"Please help us fit somewhere in this world" (Student)

"Thankyou I hope this has helped, and /I haven't confused you with last yr comments and to date. I am happy with how my son has progressed this yr. With the support, but I wished he had it earlier on in his school life. That's all. I f it can assist someone else that's great. def more training to be compulsory, understanding, communication and patience. along the journey goes along way. and be able to laugh and smile. :) thankyou" (Parent)

"This survey is much-needed and long-overdue - I hope it will bring about dramatic change, particularly in the government education system in Western Australia - which is atrocious. Our children on the spectrum deserve so much better. An autism specific school is urgently needed her for high functioning children who are so capable, given the right environment and support from caring, motivated, educated staff". (Parent)

"Awesome job in doing research to actually find out what it is that these kids need! I'm very disheartened and at a point where I am ready to give up teaching and change career paths because I've been fighting the battle of getting what these kids need in schools since my own sons went through - they are now adults. I find the system and lack of resources and inadequate staffing very frustrating. Constantly upset by the fact that we're not doing enough to support these kids because resources and staffing keeps getting CUT rather than increased and classroom staff are too overloaded by everything else that they don't have the time to undertake their own training in their own time. They desperately want to help, but don't have adequate support or in school time access to training to be able to do so. a big thanks for this positive step forward." (Specialist)

Theme 2: Needs and Suggestions

Another theme that was generated related to needs and suggestions. This theme could be divided into a number of sub themes.

Table 4: Needs and Suggestions Sub Themes

Theme	Student	Specialist	Parent	Educator	Total
Attitudes and understanding	4	1	29	2	36
Funding and resources	0	1	21	1	23
Training	0	2	12	5	19
Specialists	0	1	2	0	3
Other	0	1	10	2	13

Sub Theme 1: Recommendations - Attitudes and understanding

"Individuals with an ASD have become so prevalent within our society. Within our special school setting we still have teachers who just don't get it! It is very frustrating that universities etc don't take a more proactive part in education their students re ASD. Not just a short course etc. As someone who has taught for a long period of time it upsets me that our graduates do not understand ASD. It also upsets me that some individuals within mainstream do not see ASD strategies as those that would assist most of the students

within their care.
Finally money needs to be put in place to assist ASD students with an ID enter our workforce and have meaningful lives. (Educator)

"School is generally a base for our kids to launch off from once completed. We have kids with amazing abilities, it is a shame they are looked upon as a bit of a hindrance in the classroom. It takes a great teacher to understand that potential comes in all shapes and sizes, and to know how to unleash and nurture our children's potential. Lets aim for a learning environment that includes and supports all children." (Parent)

Sub Theme 2 Recommendations - Funding and resources

"Overall, we live in a very small town, 1 1/2 hours south of Cairns. We have very limited access to support staff due to funding for our little school (under 100 students). There is only so much a classroom teacher can do when she has a teachers aide and a special needs teacher for only a few hours a week. We have several children, in my sons class, who have special needs and the few hours of a sn teachers aide does not equate to much per student." (Parent)

"As a parent, if you want your child to have the education and support that they are entitled to you really have to become an advocate for your child. We fund and provide the additional tuition because the school are not providing this service even though her IEP states otherwise. Very frustrating and time consuming as is having a child on the spectrum but as parents your child education is a key to their future successes" (Parent)

"I sincerely hope you can manage to get more funding that will translate to better teaching strategies and classroom sizes. Knowing about ASD and applying that knowledge to improve outcomes is another matter. Teachers need to get on board because the numbers of these students are climbing; they have so much to offer but seem to get cast aside as a burden..." (Parent)

Sub Theme 3: Recommendations - Training

"I feel Professional Development within the teaching faculty to understand the variety of behaviours, mannerisms and simply to be able to identify whether or not there is a learning, social, communication difficulty would be advantageous. Unless the teachers understand the many faces of ASD how will they be able to teach these children to reach their full potential." (Educator)

“Each school should have more specifically trained staff to help with the ASD communities within each school community - keep dreaming.” (Parent)

Sub Theme 4: Recommendations - Specialists

“I think schools need to work closer with other team ie psychologist, family etc. also more education for peers. Perhaps even parents of peers.” (Parent)

Sub Theme 5: Recommendation - Other

“Please help :)” (Parent)

“I hope that things can change cause we're in a whole lot of trouble if it doesn't” (Parent)

“I have come to the realisation that my grandsons are autistic children who will grow into autistic adults, they cannit be cured, but they can be assisted to learn and develop themselves so that they hopefully will be accepted in tbe wider community.” (Parent)

Survey

“This is a very long survey - only the most committed will do it. Perhaps add a save mode as you go and more people may attempt it. I would not have had the uninterrupted time to do this on a work day - lucky I am doing this on the school holidays.” (Educator)

“The survey was thorough however extremely long. It may deter already time poor practitioners. This is an area of much needed research and attention. All the best!” (Specialist)

“I hope that your survey achieves some good. Some of the questions were very hard to answer as ASD covers such a huge range. I have had contact with students who achieved very high OP results, contact with students who had severe intellectual impairment as well as ASD and everything in between. There can't be a one size fits all, there must be individual solutions for everyone.” (Educator)

Comments about schooling

“Im very unhappy with the treatment of my son in the current school but i have been told if he is made to stay in the classroom to access the curriculum and he misbehaves then he will likely be sent home. Im exhausted and stuck between a rock and a hard place... the principal has told me my son is not accessing the curriculum at all... he is currently in year 1 and is not doing reception level work.” (Parent)

“I feel for the teachers, having to try to fit this all in as well as dealing with the rigors of the national curriculum. We have had teachers that have done it really well and have made a real difference to my son, and we have had teachers that have been out of their depth with him. He is very high functioning but requires some real patience and genuine understanding.” (Parent)

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