

Removing educational barriers in Australian schools for autistic students:

Current trends, gaps, and recommendations for educational research, inclusive policy, and educational practice

Executive Summary

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Reframing Autism
Siblings Australia

Autism CRC

Autism CRC is the independent national source of evidence for best practice in relation to autism across the lifespan and the spectrum.

We provide the national capacity to develop and deliver evidence-based outcomes through our unique collaboration with autistic people, families, professionals, services providers, researchers, and government. Together, we are addressing agreed needs and co-producing outputs with these stakeholders for the benefit of the community.

Autism CRC was established in 2013 as the world's first national, cooperative research effort focused on autism under the Australian Government's Cooperative Research Centres (CRC) Program. We receive funding from a number of sources, including the Australian Government. Autism CRC is no longer part of, or associated with, the CRC Program.

autismcrc.com.au

A note on terminology

We recognise that when referring to individuals on the autism spectrum, there is no one term that suits all people. In our published material and other work, we use the terms 'autistic person', 'person on the autism spectrum' or 'person on the spectrum'. The term 'autistic person' uses identity first language, which reflects the belief that being autistic is a core part of a person's identity.

Autism Spectrum Disorder (ASD) is diagnostic terminology used by the healthcare sector and is used in the context of a person being 'diagnosed with Autism Spectrum Disorder'.

Where we are citing others, we have amended their terminology where possible, but had to keep to the original terminology when citing policy title or publication titles.

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Executive summary

The aim of this white paper is to give readers a better understanding of what is needed for autistic learners to flourish in educational environments. The white paper reports on the findings of the Autism CRC research project titled: Removing Educational Barriers in Australian Schools (REBAS). The aim of the REBAS project was to increase awareness and understanding of educational enablers and barriers for autistic students.

The white paper reports on five key areas:

1. A summary of the educational body of research conducted by Autism CRC (2013–2022).
2. A summary of key findings from the data generated by scoping review research across seven key themes. These reviews were conducted with the aim of reviewing the literature to identify current knowledge and gaps, to provide recommendations for research, policy and practice that will support autistic learners to flourish in their education.
3. A summary of key findings from an analysis of inclusive policies across all states and territories of Australia to provide recommendations for progressing nationwide inclusive policy and practice.
4. A summary of key results from empirical research conducted nationwide with multiple stakeholders (through a survey and interviews). The focus of the research was identifying educational enablers and barriers for autistic learners and their siblings.
5. Key recommendations to ensure autistic and diverse learners flourish and have agency in their education.

Summary of Autism CRC educational research (2013–2022)

A summary of Autism CRC educational research conducted nationally is provided. This summary helps to inform what can be learned from this body of research over the last decade regarding limitations, gaps and recommendations that will help move autism educational research forward nationally into the future.

Across the last 10 years there were **five key focus** areas for Autism CRC educational research. These are summarised in Table 1.

Table 1: Summary of Autism CRC Educational Research (2013–2022)

Focus areas	Key areas of investigation
<p>A. Enhancing, teaching, & the learning experience (classrooms of excellence) 12 research projects</p>	<p>These research projects focused on four key areas of investigation:</p> <ol style="list-style-type: none"> Literacy including emergent literacy, shared book reading, predicting literacy outcomes, story times in libraries, written expression, and literacy support tools. Transitions with a focus on teachers’ models of practice and transition out of school into employment. Collaboration with education partners e.g., parents, autistic learners, educators, allied health. The classroom environment e.g., acoustics, structured teaching approaches, models of practice.
<p>B. Social emotional wellbeing & school connectedness/engagement 8 research projects</p>	<p>These research projects focused on four key areas of investigation:</p> <ol style="list-style-type: none"> Multiple stakeholders’ views of Australian autistic learners’ educational needs. Navigating the social and social communication environment at school (including software programs and robotics support). Novel approaches to supporting teachers and autistic learners in schools (particularly rural and remote areas) and addressing challenges experienced implementing contextually fit approaches. Supporting wellbeing and connectedness.
<p>C. Linking student experiences, developmental & behavioural trajectories 1 research project</p>	<p>A 6-year longitudinal project linking autistic students’ academic outcomes to their life experiences, wellbeing, and cognitive profiles. One of the world’s largest and longest studies following autistic children over time. Data was collected from home, school and from some of the children/teenagers themselves including outputs investigating:</p> <ul style="list-style-type: none"> Associations between autism characteristics and written and spoken communication skills in young autistic children. Extensive research into anxiety in autistic children, including school-based anxiety. Participation profiles of autistic children at home, school, community. Self-reported positive attributes and favourite activities of autistic children.
<p>D. Adulthood research projects linked to educational research. 3 research projects</p>	<p>Three key longitudinal and short-term research projects focused on transition from school to further education and employment.</p>
<p>E. Research knowledge translation 3 research projects</p>	<p>A suite of three additional educational research projects supporting knowledge translation research and the development of knowledge translation resources housed and freely publicly accessible - nationally and internationally on the InclusionEd website (https://www.inclusioned.edu.au/).</p>

Table 2 provides a summary of recommendations for future research generated by Autism CRC educational research 2013–2022.

Table 2: Recommendations for Future Research Informed by Autism CRC Educational Research (2013–2022)

Key Topics	Research that:
Co-production	Is co-produced with autistic individuals, autistic community groups and autism community partners.
Generalisation and research knowledge translation	<ul style="list-style-type: none"> • Balances generalisability and the need for application to diverse contexts/participants. • Investigates support, professional learning, skills, and confidence of educators. • Enables educators to proactively monitor factors that put autistic children at educational risk. • Applies socially valid experimental research methods to classroom environments.
Participants and contexts	Research that includes: <ul style="list-style-type: none"> • Hard-to-reach people – most in need. • Marginalised in multiple ways. • Broader diversity in participants and contexts. • Perspectives of children and caregivers. • Broader targets for participants to increase time- and cost-effectiveness of school-based interventions.
Research training	Provides different professional learning options to support training and to help promote research knowledge translation.
Linking data sets	Considers pathways for how data each year feeds into next year and may predict student outcomes.
Mental health, anxiety, & wellbeing	<ul style="list-style-type: none"> • Improves knowledge and understanding of anxiety at school. • Investigates profiles of school anxiety in male, female, and non-binary autistic children and how they differ from non-autistic children. • Focuses on characterising and unravelling the interplay of risk and resilience factors for mental health difficulties. • Develops and evaluates psychological treatments for common mental health, health and sleep difficulties co-occurring with autism. • Identifies effective early support strategies to protect against later mental health concerns. • Includes reliable measures: <ul style="list-style-type: none"> – for school participation for autistic students – for valid, and autism-considerate measures of school anxiety – with comparable multi-informant versions to gather reliable data on similarities and differences across settings and contexts.
Curriculum areas, teaching practice, focused interventions	<ul style="list-style-type: none"> • Involves longitudinal research investigating literacy performance profiles in autistic students from primary into high-school years to enable early identification of students at risk of (persistent) literacy difficulties. • Includes other curriculum areas beyond literacy and further extends research that considers social emotional, wellbeing and behavioural support. • Is holistic in focus with critical reflection of inclusive practice and placement decisions. • Investigates sensory subtypes to inform tailored supports.
Research design	<ul style="list-style-type: none"> • Adapts experimental research methods to ensure social validity in the school environment. • Involves more longitudinal studies. • Includes longer-term trials in classrooms with more diverse student groups and inclusion of more diverse measures of student outcome. • Considers utility of strategies for other groups of learners. • Explores optimal focus and frequency of prevention and early supports. • Supports different socioeconomic and geographical contexts e.g., rural, and remote schools.
Data collection	<ul style="list-style-type: none"> • Co-develops a meaningful measure of participation for autistic students including self-rating scales. • Use measures suitable for autistic people, with findings that can be generalised to real-world contexts.

Scoping current international trends, limitations, and gaps in autism educational research and analysing inclusive education policies

Australia wide

To be genuinely inclusive, education systems need to implement policies and practices that reduce educational barriers to school success for diverse learners. Building on the success of the body of educational research conducted by Autism CRC, it was considered timely to scope, map, and synthesise relevant literature on topics that:

1. Inform understanding of autistic learners, including those with high and/or complex needs or who are marginalised in multiple ways
2. Identify gaps and limitations of autism educational research conducted to date
3. Identify enablers and challenges to inclusive educational practice for autistic and diverse learners
4. Analyse inclusive educational policies Australia wide.

Identifying key issues related to promoting autistic learner success and gaps in educational policy, research, and practice can inform the autism community and our education system nationally. Identification of key issues can also provide recommendations to support the development of appropriately tailored inclusive research, policies, practices, and professional learning that promote autistic and diverse learners' success in schools.

Scoping reviews are useful for examining, mapping, and identifying boundaries in the literature. The purpose of these reviews was to “scope” and synthesise the literature on these topics to help build our awareness and understanding of what factors may be influencing autistic learners' educational success. In addition, these reviews aimed to identify key gaps in research, policy and practice that can inform recommendations for what further is needed for autistic learners to flourish and have agency in educational environments.

Each scoping review had an overarching focus on a research question related to:

What are the enablers and barriers to autistic learners flourishing in their education?

Further research questions around enablers and barriers to siblings flourishing were also considered in relation to themes that were relevant.

Produced in consultation with autistic consultants, autistic community groups, and other autism community end users, seven themes were identified as the focus for scoping reviews (refer to Figure 1). Each review considered key topics related to each theme. The seven themes were:

1. Academic and learning considerations
2. Built environment and learning space design considerations
3. Wellbeing considerations
4. Co-occurring considerations
5. Identity considerations
6. Family and community considerations
7. Inclusive practices.

Overall, in total 870 articles were reviewed across the seven themes.

To further supplement the scoping reviews an examination and analysis of inclusive education policy documents nationally was also undertaken. The review and analysis identified relevant inclusive education policy documents publicly available from every state and territory nationally. As a result, in addition to the total **870** articles reviewed for the scoping reviews, a further **22** documents were reviewed for inclusive policy analysis.

Figure 1. Overview of REBAS scoping review themes and topics



- **Theme 1 scoping review** identified research that looked at **academic and learning considerations** that can have a positive or negative impact on autistic students' capacity to thrive in schools. The review reported on the findings of **132** research articles published **in the last 10 years**. These were summarised in relation to **eight** topics. Several supports were identified in the research as enablers to academic success while **a lack of appropriate supports for learning, the resulting increased anxiety and negative school climate were identified as some barriers**.
- **Theme 2 scoping review** identified research looking at **built environment and learning design factors** that can have a positive or negative impact on autistic students thriving in schools. The review reported on the findings of **65** research articles published **in the last 10 years**. These were summarised in relation to **three** topics. **ASPECTSS Design Index (Acoustics, Spatial sequencing, Escape space, Compartmentalisation, Transitions, Sensory zoning, Safety) was frequently cited as key considerations to enable** success in the learning environment.
- **Theme 3 scoping review** identified research looking at **wellbeing factors** that can have a positive or negative impact on autistic students thriving in schools. The review reported on the findings of **212** research articles published **in the last 10 years**. These were summarised in relation to **11** topics. **Anxiety and bullying in educational contexts were found to be key barriers** to autistic learner success and **relationships and safe space were important enablers**.
- **Theme 4 scoping review** identified research looking at **co-occurring considerations** that can have a positive or negative impact on autistic students thriving in schools. The review reported on the findings of **174** research articles published **in the last 10 years**. These were summarised in relation to **four** topics. **Behavioural experiences with educational contexts** were identified as one of the **major barriers** to school success for autistic learners as well as **a lack of consultation and collaboration with key stakeholders including autistic learners**.
- **Theme 5 scoping review** identified research that looked at **factors related to identity** that can have a positive or negative impact on autistic students' capacity to thrive in schools. The review reported on the findings of **183** research articles published **in the last 10 years**. These were summarised in relation to **four** topics. **Cultural, autistic identity, gender and sexuality identity considerations were identified** as enablers or barriers to autistic learner success.
- **Theme 6 scoping review** identified research looking at **family and community factors** that can have an influence autistic students' capacity to thrive in schools. The review reported on the findings of **80** research articles published **in the last 10 years**. These were summarised in relation to **four** topics. Family, sibling, and extended family considerations for both **autistic learner and sibling success** were identified.
- **Theme 7 scoping review** identified research related to **inclusive practices** that can influence autistic students' success in schools. The review reported on the findings of **74** research articles published **in the last 10 years**. These were summarised in relation to **four** topics. **Enablers and barriers to inclusive practice for autistic learner success were identified**.

An **inclusive education policy review across all states and territories of Australia** was also conducted. The review and analysis of the **inclusive education policy and strategic plans** of each state and territory in Australia used a framework for policy analysis informed by the UNESCO (2017) guide for ensuring inclusion and equity in education and three additional concepts drawn from scholarly literature and international instruments including:

- **the social model of disability**
- **definition of inclusive education (CRPD/GC4)**
- **context.**

The review and analysis highlighted how each state and territory has made some progress towards achieving inclusive education policy and practice in Australia and indicated the work that still needs to be done. It highlighted challenges associated with achieving agreement between governments and education districts which can be overcome with a national inclusive education roadmap/framework/approach to policy and practice.

REBAS empirical research

Informed by the previous Autism CRC Educational Needs Analysis research (Saggers et al, 2018), the mixed methods nationwide study used a convergent parallel research design (Creswell & Plano Clark, 2017) to implement a national online qualitative survey and semi-structured interviews. The aim was to provide a further richness and depth to the data collected across all phases of the REBAS project.

Survey data

In total, **145 participants completed the survey** including:

- **134 participants** from the following stakeholder groups:
 - educators – teachers ($n = 26$), teacher's aides ($n = 5$), school leaders ($n = 6$), parents/caregivers ($n = 64$), and allied health professionals ($n = 33$)
- **10** autistic students
- **1** sibling

Key findings from adult stakeholders (parents, educators, or allied health professionals) and autistic learners who completed the online survey were described in relation to six key areas:

1. Strengths of autistic learners
2. Needs of autistic learners
3. Enablers for autistic learner success
4. Barriers to autistic learner success
5. Autistic learners and complex needs
6. Professional learning needs of stakeholders to support autistic learner success.

Autistic learners' strengths were identified and are summarised in Table 3.

Table 3: Autistic learners' strengths

Thinking and reasoning	Personality	Skills and talents	Academic	Social
<ul style="list-style-type: none"> • Creativity & flexible thinking • Passion/interest in subjects • Attention to detail • Intelligence & knowledge • Memory • Visual processing 	<ul style="list-style-type: none"> • Compassion/empathy • Kindness & respect • Determination & desire to achieve • Honesty • Humour • Resilience • Sense of justice/fairness • Courage • Positive/open-minded attitude • Hardworking • Curiosity • Independence & maturity • Patience & forgiveness 	<ul style="list-style-type: none"> • Understanding of self • Unique perspective • Authenticity • Ability to focus • Routine • Follows rules & expectations • Physical ability • Organisation 	<ul style="list-style-type: none"> • Mathematics • General • Reading & literacy • Science • Physical education • History 	<ul style="list-style-type: none"> • General Social • Accepting of others • Supportive of peers • Supportive of staff • Supportive of family

Note: Themes are reported most to least commonly reported from left to right, and columns list most to least commonly reported from top to bottom.

Autistic learners' needs were identified and are summarised in Table 4.

Table 4: Autistic learners' needs

Classroom accommodations and supports	Social-emotional skills	Supportive attitudes	Adaptive behaviour skills	Mental health	Academic skills
<ul style="list-style-type: none"> • Flexible curriculum and teaching styles • Supportive sensory environment • Specific accommodations (e.g., more time) • Clear instructions • Routine and consistency • Small classes/groups 	<ul style="list-style-type: none"> • Coping skills and emotional regulation • Building friendships/relationships with peers and staff • Learning social skills • General social skills 	<ul style="list-style-type: none"> • Understanding and respect • Acceptance and belonging 	<ul style="list-style-type: none"> • Organisation • Sense of safety • Life skills • Building engagement and focus 	<ul style="list-style-type: none"> • Support for mental health and self-esteem 	<ul style="list-style-type: none"> • Tutoring and extra support for difficult subjects

Note: Themes are reported most to least commonly reported from left to right, and columns list most to least commonly reported from top to bottom.

Enablers to autistic learners' success were identified and are summarised in Table 5.

Table 5: Enablers to autistic learners' success

School support network	Environmental	Academic	Understanding of autism	Classroom accommodations and supports	Student attributes	Home supports
<ul style="list-style-type: none"> • Attitude & knowledge • Supportive relationships • Supportive staff teacher/principal • Acceptance & inclusivity • Access to services • Empathy 	<ul style="list-style-type: none"> • Flexible & adaptable • Supportive resources • Clear communication • Sensory environment • Safe • Non-restrictive classroom • Smaller class size 	<ul style="list-style-type: none"> • Accessible and inclusive curriculum • Incorporation of strengths and interests • Range of activities • Mathematics 	<ul style="list-style-type: none"> • School level • Neurodiversity-affirming approach • Recognition & acknowledgement • Flexibility and adaptability • Embedded in policies & processes • Community level 	<ul style="list-style-type: none"> • Routine • Visual cues • Technology • Self-directed learning 	<ul style="list-style-type: none"> • Ability to self-advocate • Sense of belonging • Student strengths • Resilience 	<ul style="list-style-type: none"> • Supportive home

Note: Themes are reported most to least commonly reported from left to right, and columns list most to least commonly reported from top to bottom.

Barriers to autistic learners' success were identified and are summarised in Table 6.

Table 6: Barriers to autistic learners' success

Attitudes and knowledge of autistic learners and inclusion	Academic	Environmental	School policies and procedures	Support network	Social	Student mental health
<ul style="list-style-type: none"> • Understanding • Inclusivity & acceptance • Lack of neurodiversity-affirming approach 	<ul style="list-style-type: none"> • Fixed/inflexible teaching • Non-inclusive curriculum • Fixed expectations • Tests/homework • Lack of assistive technology 	<ul style="list-style-type: none"> • Non-inclusive and inflexible • Communication • Classroom sizes • Not sensory friendly • Distractions • Unsafe • Resources 	<ul style="list-style-type: none"> • Staff training/resources • Use of punishment • Funding • Low level of student involvement • Rules/regulations • Inconsistency • Lack of accountability 	<ul style="list-style-type: none"> • Staff • Processes/policies • Home • Relationships • Access to services 	<ul style="list-style-type: none"> • Bullying • Lack of engagement with peers 	<ul style="list-style-type: none"> • Social/wellbeing • Anxiety/social anxiety • Fear of school

Note: Themes are reported most to least commonly reported from left to right, and columns list most to least commonly reported from top to bottom.

1.1.1.1 Educational strengths and needs of autistic learners with complex needs

Complex needs were defined in the survey as “intersectional identities (e.g., autistic and CALD, First Nations, sexual and gender diverse) and/or co-occurring conditions (e.g., intellectual disability, ADHD, dyslexia, complex learning, communication, behavioural/social emotional, twice exceptional/dual exceptionality, co-existing health or disability needs).” It was indicated that the results regarding the educational strengths and needs of autistic learners was representative of those who also had complex needs. Of note, most parents ($n = 56$, 86.2% of parent respondents) answered “yes” their responses related to a student with complex needs. Furthermore, most other stakeholders (teachers, school leaders, and allied health, $n = 50$, 75.8%) reported their answers would be similar for autistic students with complex needs.

1.1.1.2 Professional learning

Parents/Caregivers and professionals on average reported high interest in more professional learning in autism. Top five areas of most interest for professional learning were:

- Mental health
- Flexible curriculum and teaching modalities
- Autism awareness and understanding including neurodiversity affirming practice
- Environmental and sensory supports, and additionally for parents – broader supports and access to these in the community
- Consultation and professional development informed or led by autistic people.

Interview data

Of the 145 participants who completed the survey, 50 (**34.5%**) of the participants consented to an **in-depth semi-structured interview** including:

- 23 parents/caregivers
- 9 educators
- 11 allied health professionals
- 6 autistic students
- 1 sibling.

The research also included a qualitative component through in depth semi-structured interviews that were designed to establish/explore from the various stakeholder perspectives what enablers and barriers influenced academic learning, wellbeing and engagement at school for autistic students who have complex needs. There were **50 participant stakeholders** (23 parents/caregivers, 11 allied health professionals, 9 educators, 6 students, 1 sibling) who were individually interviewed online or via phone.

Figure 2 provides a visual representation of the educational strengths and needs of autistic learners generated by the interview data.

Figure 2: Educational strengths and needs of autistic learners

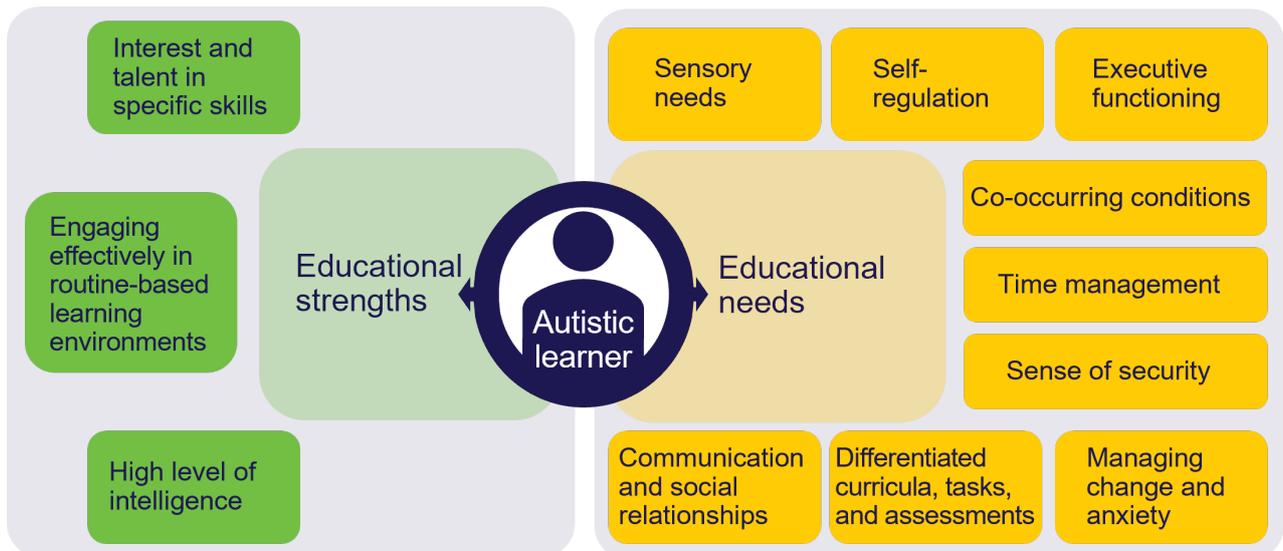
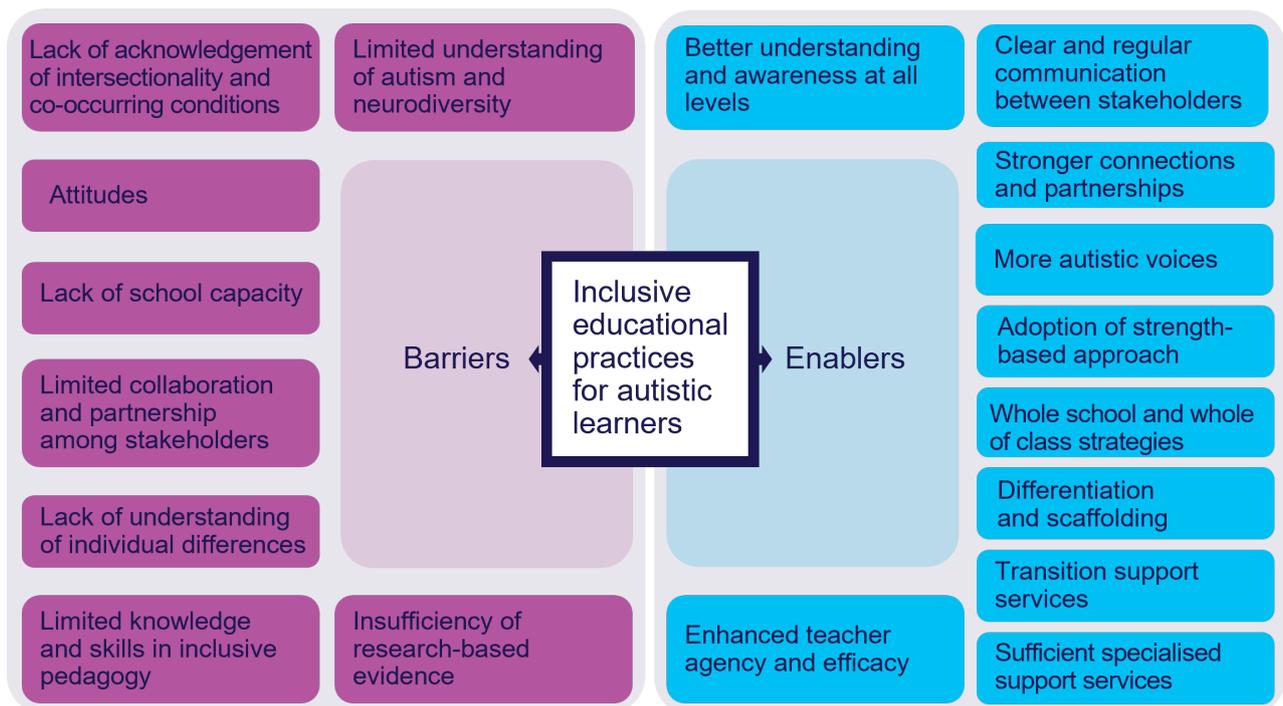


Figure 3 provides a visual representation of the barriers and enablers to education for autistic learners generated by the data.

Figure 3: Barriers and enablers to education for autistic learners



Summary and recommendations

Critically evident from the research was the unique and vast diversity within the autistic community that needs increased recognition, awareness and understanding to ensure autistic learners can flourish and experience educational success in schools. Current barriers to education are often linked to a lack of knowledge or understanding of the multiple ways this group of learners can be marginalised within school environments when there is lack of neurodiversity-affirming approaches in place that acknowledge their multiple attributes and intersectional profiles. Schools are complex, multilayered, fluid social environments that can be extremely challenging for the autistic learner to navigate without appropriate enablers in place. The current body of research has drawn attention to the limited recognition of current approaches and the multiple influences in play within educational contexts, that can create enablers or barriers to autistic learners flourishing in their education. Often assumptions around complexities for autistic learners are linked to their perceived cognitive level. Instead, drawing on an alternate definition of complexity by Pfeiffer (2015) can help understand that educational success for the autistic learner is related to a set of multiple attributes such as:

- Attributes of the learner (e.g., culture, identity, academic strengths, needs and learning preferences, wellbeing)
- Attributes of the environment including attributes of the built environment, learning space, pedagogical approaches, inclusive practices, and policies that may influence learning.

The more complex the attributes, the greater the need for:

- Multiple resources
- Multidisciplinary support, professional development and learning, collaboration, and consultation
- Individualised, strength-based, and tailored approaches to promote educational success.

Recommendations for policy, research, and practice that support autistic learners to flourish in education

Drawn on the outcomes from the scoping and inclusive education policy reviews and the findings of the empirical research involving community consultation (survey and interviews), the following recommendations are made for policy, research, and practice to enhance autistic students' opportunities to thrive in the Australian education system.

1.1.1.3 Policy recommendation to support autistic learners to flourish

Table 7 provides a policy recommendation based on the seven scoping reviews and REBAS empirical research.

Table 7: Policy recommendation to support autistic learners to flourish

Policy recommendation
Across states and territories, the provision of adequate resourcing, funding, and support to ensure autistic learners' success
Including:
<ul style="list-style-type: none"> • extra physical and material resources to support success for autistic learners that includes specialist staff, multidisciplinary support, time for consultation and collaboration, resources, and equipment
<ul style="list-style-type: none"> • funding and support for professional development training of allied health practitioners, educators, and school leaders
<ul style="list-style-type: none"> • novel approaches to ongoing support in rural and remote regions to support schools, allied health practitioners, families, and school systems
<ul style="list-style-type: none"> • additional support, support networks, and support groups for families navigating diagnosis for their child and across the lifespan
<ul style="list-style-type: none"> • additional support, support networks, and support groups for siblings
<ul style="list-style-type: none"> • ongoing financial support for Australian-based autism research
<ul style="list-style-type: none"> • physical and material resources to support built environment design, including professionals with knowledge and understanding to design effective inclusive learning spaces using appropriate co-design method
<ul style="list-style-type: none"> • evidence-based building guidelines promoting the inclusion and accommodation of autistic individuals in learning environments
<ul style="list-style-type: none"> • tailored physical and material resources to support success for autistic learners that includes specialist staff, multidisciplinary support, time for consultation and collaboration, resources, and equipment
<ul style="list-style-type: none"> • strengthen the accountability of states and territories and school leaders to ensure that policy is being implemented in practice

1.1.1.5 Research recommendation to support autistic learners to flourish

Table 8 provides a research recommendation generated by the seven scoping reviews and REBAS empirical research.

Table 8: Research recommendation to support autistic learners to flourish

Research recommendation
Ongoing commitment to research that deepens our knowledge of autistic experiences, heterogeneity and the complexity of autism and promotes research evidence to support autistic learners' success in schools
Including:
A. More diverse academic and curriculum-based research exploring:
<ul style="list-style-type: none"> • broader academic areas and application of strategies across a range of academic/curriculum areas • students' acquisition of social or multimodal literacy skills through engagement with blended digital media creation • which adjustments of teaching materials are most appropriate for autistic learners • what best supports autistic learners in different subject areas • current teaching practices that work well for their autistic students • how challenges in one subject may influence another • the link between transitions and academic success • what effect academic needs have on autistic learner's next steps after school e.g., career pathways, vocational education and training, and university education
B. More classroom-based research that:
<ul style="list-style-type: none"> • develops more socially valid classroom-based research that has fidelity across whole school, year level, and individual classrooms • evaluates classroom-based 'intervention' trials to assess how they can be translated from 1:1 research contexts • captures built environment post-occupancy evaluation case studies including observation and autistic learners' perspectives
C. Increased diversity in research design that reduce risk of bias and monitoring of adverse effects including:
<ul style="list-style-type: none"> • large scale studies • longitudinal studies to follow student progress • randomised control trials for specific programs and supports • qualitative research to get a deeper insight into autistic learners/teachers/parents' views • mixed methods • higher ecological and social validity measures • evaluations of skill maintenance post research • innovative single case study designs that can examine the outcome of whole classroom or whole school approaches

Research recommendation

D. Wider diversity in participants and geographical location including:

- greater focus on younger (under 8) and older children (12-17)
- autistic students with co-occurring conditions such as intellectual disabilities, specific learning disorders, communication disorders, attention deficit hyperactivity disorder, anxiety disorders, and mood disorders
- increased diversity in participants e.g., intersectionality, multiple marginalities, hard to reach participants, gender (beyond binary male/female), sexuality, identity, geographical location, race, culture, ethnicity, minimally verbal, older and younger children, intellectual disability, low socio-economic status
- multiple stakeholders' perspectives
- built environment design professionals, disability design consultants, and government stakeholders involved in educational building procurement
- student perspectives at the intersection of autism and other disabilities, cultures, identities, and complexity in needs
- research that broadens geographic and social economic diversity across contexts (e.g., internationally, nationally, regional, rural, and remote)
- more Australian produced research (reflecting our unique geographical, cultural, and socio-economic diversity)

E. Built environment and learning space research that:

- investigates effects of built environment and learning space design on autistic learners and those who are marginalised in multiple ways
- focuses on the design and evaluation of inclusive built environments and learning spaces to support neurodiverse learners
- supports and develops methods and protocols for the collaborative co-design of learning spaces with teachers, students, and parents
- supports the development of evidence-based building and refurbishment guidelines promoting the inclusion and accommodation of neurodiversity in learning spaces and the broader built environment
- investigates effects of built environment and learning space design on autistic learners and those who are marginalised in multiple ways

F. Wellbeing research that further investigates:

- anxiety, depression, mental health, wellbeing, and quality of life in autistic learners of different ages
- trauma and autistic learners
- approaches to support connectedness and belonging, and minimise risk of bullying
- burnout – teacher, parent, student
- masking/camouflaging and autistic learners
- positive approaches to supporting behaviours experienced by some autistic learners in school environments

1.1.1.6 Practice recommendation to support autistic learners to flourish: Maximising success and reach – professional learning, support, and translation to practice

Table 9 provides practice recommendation generated by the seven scoping reviews and REBAS empirical research.

Table 9: Practice Recommendation to Support Autistic Learners to Flourish

Practice recommendation
<p>School leaders, educators, allied health and associated paraprofessional supports operate with deep knowledge of autistic experiences, heterogeneity, attributes and the complexity of autism and its place in all areas of student engagement including academic, executive function, social-emotional, behavioural, sensory, and identity considerations.</p> <p>Achieved through ongoing professional learning, support and coaching for school leaders, educators, allied health, and other professionals.</p>
<p>Ongoing professional learning builds awareness and ensures the implementation of practices that:</p> <ul style="list-style-type: none"> • reduce anxiety, behavioural, bullying, and social challenges for autistic learners in the school environments • support autistic perspective and identity within their education • nurture an inclusive school climate that supports connections, a sense of belonging, peer acceptance and connections • support students’ executive function, social networks, self-regulation, and wellbeing • reduce environmental challenges e.g., sensory experiences within the school environment • promote strong connections and communication in home school partnerships • increase awareness and understanding of risk of multiple marginalities for this group of learners and in turn reduce barriers to learning for autistic learners at risk of multiple marginalities • promote autistic students’ self-determination and agency • support wellbeing of educators and parents, to reduce burnout • build understanding of how trauma and potential trauma can be identified, reduced and responded to (e.g., teaching in trauma-informed ways) • develop awareness and understanding of socially valid evidenced-based practices that support learners with intellectual disability, communication, or behavioural needs and that can be implemented with fidelity in school environments and include respect for student autonomy, self-determination, and causal agency • draw on professional learning on culturally responsive practices • build awareness and understanding of gender/sexual diversity and implementing practices that are supportive and promote the success of this group of learners • promote recognition and understanding of the educational needs of siblings and implementation of supports to ensure their success in schools • recognise the importance of the sibling relationship – as important ‘agents’ in the development of autistic learners – but need support themselves • enhance understanding and implementation of neurodiversity-affirming approaches and multiple attributes influencing autistic learners’ success • increase professional development opportunities regarding inclusive and equitable practices for educators • adopt approaches that support connectedness and belonging and mitigate risk of bullying

Recommendations for inclusive education policy, research, and practice

The following recommendations are **drawn specifically from the inclusive education policy review and analysis of Australian states and territories inclusive education policy and strategy** and provide broader inclusive education policy, research, and practice recommendations (see Table 10).

Table 10: Recommendations for inclusive education policy, research, and practice

Recommendations for inclusive education policy, research, and practice	
A. Inclusive education policy recommendations	
i)	States and territories documents should include definitions of inclusion (as in General comment No. 4, United Nations CRPD, 2016) and equity consistently across their educational policies, strategic plans, and documents guiding school practices. This will help all professionals working with learners and their families develop shared understanding and agreement about what inclusive education is and what it is not.
ii)	States and territories should adopt the General comment No. 4 (United Nations CRPD, 2016) definition of inclusive education in their policy and plan documents to accelerate systemic reform and promote genuine inclusive practice.
B. Inclusive education research recommendations	
i)	Involve key educational stakeholders to work in partnership with researchers to progress a national inclusive education system.
ii)	Commitment to participate in comparative and international research across different contexts to address inclusive education policy to practice gaps.
iii)	Increase research focused on student, parent, and teacher perspectives to better understand the perceptions, challenges, and successes associated with inclusive schooling.
iv)	In-depth studies about how schools and educators understand and enact inclusive education.
C. Inclusive education practice recommendations	
i)	States and territories need to ensure that professionals supporting learners and their families understand and support policy goals for promoting inclusion and equity in education.
ii)	States and territories need to establish systems for monitoring the presence, participation, and success of all learners and use this evidence to make informed decisions for fostering greater inclusion and equity.
iii)	Actions need to be taken to define leadership goals and roles at different levels and enhance education leaders' capacity, commitment, and accountability.
iv)	Plans and strategies should identify, challenge, and remove potential non-inclusive, discriminatory, and inequitable practices in schools and other learning centres.
v)	Greater structure and system support for inclusive education is required: all schools should be expected and supported to be inclusive schools.
vi)	Special education services need to be included in strategy and planning to progress inclusive education.
vii)	Education sectors should work collaboratively with other government sectors to progress inclusive education.
viii)	Mechanisms to ensure transparency for, and access to, the use of resources to support equity and inclusion need to be established.
ix)	Short- and long-term planning is needed to support collaboration, sharing of expertise, resources, and funds to support a unified system of inclusive education.
x)	Actions need to be taken to ensure that schools, teachers, and school leaders use a range of pedagogical strategies to cater to learner differences. This needs to be outlined in educational policies, and implementation plans need to be included in strategic plans.

Recommendations for inclusive education policy, research, and practice

- xi) Schools should develop and monitor effective procedures for listening to students' views regarding their learning and aspirations.
- xii) Teachers should have the knowledge and skill to assess learning progress and support students at risk of underachievement, marginalisation, or exclusion.
- xiii) School staff should be expected to work closely with parents to strengthen support for learners at risk of underachievement, marginalisation, or exclusion.
- xiv) Planning and action need to occur to strengthen initial training so that teachers and support staff can respond to diversity more effectively.
- xv) Increase professional development opportunities regarding inclusive and equitable practices.

Conclusion

This REBAS body of research highlighted that for autistic learners to thrive in their education it is important that deeper knowledge and understanding is needed regarding the great diversity, heterogeneity, attributes and experience of autistic learners and the complexity of autism. This requires ensuring appropriate inclusive education policies are in place and are translated and actioned in practice in educational settings. The research identified key factors that need to be considered and provided recommendations for policy, research, and practice that can help deepen knowledge and understanding of autistic learners and ensure they flourish in educational environments. Barriers to autistic learners' education were identified as a lack of adequate understanding of autism and other kinds of neurodivergence, particularly in school settings. Concerns were also raised about the capacity of schools to include and support autistic learners, educators lack of understanding of how to cater to individual differences, and the limited use of appropriate inclusive pedagogy. To enable autistic learners' educational engagement and achievement, emphasis should be on increasing understanding across all stakeholder groups, including policymakers, parents/carers, educators, allied health, and peers, as well as forging stronger partnerships fostering clear and regular communication between all stakeholders. The significance of having more autistic perspectives in such collaborations and professional development programs is fundamental to their success. It is critical to support autistic learners to flourish in education settings promoting their growth, development, learning and holistic wellbeing. When autistic learners can develop their potential and live well and when teaching and learning are of a high quality and meaningful to them, their relations will prosper.

Lay summary abstract

This research looked at things that can make it easier or harder for autistic learners to do well at school. We used this information to list the things that should change in policy, research, and practice to help autistic learners be successful. Our research found that the biggest thing that gets in the way of autistic young people's learning is that people in schools, or other places where autistic people learn, don't always understand autism very well. That means that they don't understand very much about how autism may impact school and learning. The study found schools need to include and support autistic students more, and understand the challenges they face, especially if they have other conditions. It's important for parents, teachers, and friends to understand autism too. The research said that everyone should work together, talk more, and listen to autistic people when making decisions. If we do these things, schools will be better for autistic learners, and they will do well and feel good about themselves.

