AutismCRC

Middle Years Behaviour Support Project (MYBSP)

FINAL REPORT

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A teleconsultation approach to support the learning needs of students on the autism spectrum in the middle years of schooling in rural, remote, Indigenous, and isolated education communities

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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.

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

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1. Abstract

Educators can experience challenges effectively meeting the more unique and complex needs of students on the autism spectrum within inclusive contexts. For teachers in rural and remote communities the geographical isolation and lack of professional learning opportunities can further exacerbate these challenges. Building on previous Autism CRC research findings from the Australian Educational Needs Analysis (ASD-ENA) and the Early Years Behaviour Support Project (EYBSP) the Middle Years Behaviour Support Project (MYSBP) uses a multi-phase mixed methods research design to investigate factors influencing the schooling of middle years students on the autism spectrum. Using a multisite case study approach, the project investigated two key foci: i) factors influencing students on the autism spectrum move from mainstream to more alternate school placements in the middle years of schooling; and ii) extending the use of a tele-classroom consultation (TCC) approach previously trialled in the Autism CRC EYBSP to support educators in middle years contexts in metropolitan, rural and remote regions. Findings identified a range of factors influencing placement choices in the middle years of schooling for learners on the autism spectrum, added further support for the use of a TCC hybrid approach to support of educators across a range of schooling contexts in metropolitan, regional, rural and remote regions and reinforced a range of guiding principles influencing support practices and working in schools that help build capacity in schools to meet the more complex needs students on the spectrum can experience in school settings.

2. Introduction

Effectively meeting the needs of learners on the autism spectrum can present challenges to schools and school systems that can create major barriers to participation in school for this group of learners. Research that focuses on building capacity in education systems is therefore essential to ensure this group of learners can reach their potential in the school system (Roberts, 2019). Highlighting the issues learners on the spectrum can still experience within the school system, the findings of the Australian Bureau of Statistics (ABS) Disability, Ageing and Carers survey in 2018 (ABS, 2019) indicated:

- 92.3% of young people (101,900) aged 5 to 20 years on the autism spectrum attending school had some form of educational restriction (92.3%), including a small number who were unable to attend school because of their disability
- two in five (40.8%) of the children attended a special class in a mainstream school or a special school
- of the 106,600 young people (aged 5 to 20 years) with autism who were attending school or another educational institution, 77.7% reported experiencing difficulty at their place of learning
- of those experiencing difficulties, the main problems encountered were fitting in socially (59.8%), learning difficulties (55.3%) and communication difficulties (51.5%).

The data reflects the work we still need to do to ensure there are autism friendly places that address some of the more complex and challenging aspects of school for this group of learners.

2.1 Challenges in the school environment – School and student perspectives

In relation to learners on the spectrum, schools have expressed challenges providing adequate behaviour support, appropriate curriculum adaptation and adjustment, issues with bullying, appropriate support for mental health and social emotional wellbeing, adequate personnel support and staff training including behaviour support, social emotional wellbeing, curriculum adaptations and adjustments (Roberts, 2019). From a student perspective, the Autism CRC educational needs analysis research findings highlighted those students' expressed difficulties in a number of key areas including social support, emotional regulation,

transitions, executive function, managing teasing and bullying, sensory elements of the environment and managing anxiety (Saggers et al, 2018).

2.2 School outcomes and middle years learners

These challenges can result in poor academic performance, increased bullying, mental health concerns including anxiety, depression and other mental health conditions, lower rates of participation, increased risk of suspension and exclusion, lower school attendance rates and poorer post school outcomes for learners on the spectrum (Roberts, 2019). It is essential therefore that we develop a strong evidence base that informs capacity building in school systems and promotes success for learners on the spectrum. Importantly, challenges experienced by students on the autism spectrum are often heightened during the middle years of schooling (aged 8-16) at a time when it is often assumed that students will be well-equipped to meet the demands of the learning environment (Saggers & Beasley, 2020). Middle years learning brings with it not only the move to adolescence but increased workloads, socially demanding environments, heightened needs for organisation and planning, higher risk of bullying and teasing, mental health concerns, increased pressure to be self-regulated and independent in learning and life (Saggers & Beasley, 2020).

2.3 Middle Years Behaviour Support Project

With a focus on building capacity in school systems, the MYSBP builds on previous Autism CRC research findings from the ASD-ENA and EYBSP projects. The research project employed a multi-phase mixed methods research design (Headley & Plano Clark, 2020) to investigate factors influencing the schooling of middle years students on the autism spectrum. Using a multisite case study approach (Mason et al., 2020), the project investigated two key foci:

1. factors influencing students on the autism spectrum move from mainstream to more alternate school placements in the middle years of schooling.
2. extending the use of a TCC approach previously trialled in the Autism CRC EYBSP to support educators in middle years contexts in regional, rural, and remote regions and to support more of a school wide approach to support.

Findings of this research identified a range of factors influencing placement choices in the middle years of schooling for learners on the autism spectrum and can be used to inform professional learning and support in mainstream settings. In addition, the project provides further evidence for the use of a TCC hybrid approach to support educators across a range

of schooling contexts in metropolitan, regional, rural, and remote regions and the guiding principles influencing support practices and working in schools. This research can be used to:

- increase retention and attendance rates for middle years students on the spectrum
- reduce restrictive practices for middle years students on the spectrum
- increase use of inclusive practices for students on the spectrum
- support capacity building in school systems
- inform inclusive strategies to support learners on the spectrum with more complex needs
- upskill a range of education and allied health professionals through a model of professional learning delivery applied through a TCC approach that can be applied to a range of contexts and needs of both educators and learners
- provide equitable and effective professional development to rural and remote areas to support and upskill a range of education and allied health professionals and reduce feelings of isolation.

3. Research design and methods

The research project used a multi-phase mixed methods research design (Headley & Plano Clark, 2020) to investigate factors influencing the schooling of middle years students on the autism spectrum. According to Headley & Plano Clark (2020) “mixed methods (MM) approaches are well-suited to social science inquiry because they can bridge the gap between siloed research and everyday practice in meaningful ways…and are invaluable for investigating multilevel problems” (p.146). A multilevel mixed method research design includes both qualitative and quantitative data “to generate meta-inferences about more than one aspect of a multilevel phenomenon—system, levels, mechanisms—that transcend what could be inferred from a traditionally qualitative or traditionally quantitative approach alone” (p.153).

The overall aim of the project was to investigate factors that influenced capacity building in schools and supported inclusive practices for middle years learners on the spectrum. As a result, the two-phase mixed methods study employed a multisite case study approach (Mason et al., 2020) to investigate two key foci:

- **Phase 1:** Factors influencing educational placement decisions for students on the autism spectrum in the middle years of schooling and how this information may inform in the future inclusive practices in mainstream settings
- **Phase 2:** Extending a trial of a TCC approach previously implemented in the Autism CRC EYBSP to support educators in middle years contexts in regional, rural and remote regions to support inclusive practice capacity building and professional learning for educators of middle years learners on the spectrum with a focus on more school wide support

3.1 Research questions

The following research questions were used to guide the research.

Phase 1

1. What factors influence the decision for students on the spectrum to enrol in mainstream and alternate settings in the middle years of learning?
2. How can these factors inform future inclusive practices implemented in mainstream settings to meet the more complex needs of learners on the spectrum?

Phase 2

3. What factors influence the implementation of a TCC approach to support the professional learning and build capacity of educators in middle years contexts working with students on the autism spectrum to implement inclusive practices?
4. What factors influence the implementation of a TCC approach as a school wide approach to support the professional learning of educators in middle years contexts?

3.2 Phase 1

RQ1. What factors influence the decision for students on the spectrum to enrol in mainstream and alternate settings in the middle years of learning?

RQ2. How can these factors inform future inclusive practices implemented in mainstream settings to meet the more complex needs of learners on the spectrum?

3.2.1 Phase 1 Setting

Mainstream and alternate educational settings that middle years learners on the spectrum attended nationwide were targeted for recruitment. Setting included:

- home education
- distance education
- Montessori
- Steiner
- flexi schooling sites
- mainstream settings

3.2.2 Phase 1 Participants

Phase 1 of the study collected data using survey and follow up qualitative interviews from 3 key participant groups (parents, educators, and students on the spectrum) in alternate school settings (e.g., home education, distance education, other alternate education settings e.g., Montessori and Steiner, flexi schools) and mainstream settings.

Table 1 on Page 13 provides detailed information about the participants who completed the survey for Phase 1 of the study including what state of Australia they were from and what mode of education they represented (e.g., alternate setting such as home or distance education or mainstream schooling).

Table 2 on Page 14 provides detailed information about the participants who completed the follow survey for Phase 1 of the study including what state of Australia they were from and what mode of education they represented (e.g., alternate setting such as home or distance education or mainstream schooling).

3.2.3 Phase 1 Data collection

3.2.3.1 Quantitative measures

Surveys designed by the research team (including a researcher on the spectrum) were developed for all participant groups i.e., students, teachers, and families. Data was collected at one time point capturing information about the needs of middle years learners in home and distance education.

3.2.3.2 Qualitative measures

Semi-structured interviews will be conducted at one time point for a recruited group of participating students, teachers and families involved in involved in middle years education contexts (both mainstream and alternate education settings such as distance education or home education contexts).

Table 1: Phase 1 Survey participants

By State or Territory and education setting

	Parents (n=127)					Educators (n=47)			Students (n=4)			
State/ Territory	Home education	Distance education	Alternate education	Mainstream education	**Total parents**	Distance education	Alternate education	**Total educators**	Home education	Distance education	Alternate education	**Total students**
ACT	2 (5.6%)	1 (3.2%)	2 (6.9%)	5 (16.1%)	**10 (7.9%)**	0	0	**0**	0	0	0	**0**
NSW	5 (13.9%)	1 (3.2%)	4 (13.8%)	0	**10 (7.9%)**	1 (4.5%)	4 (16%)	**5 (10.6%)**	0	0	0	**0**
NT	1 (2.8%)	1 (3.2%)	1 (3.4%)	0	**3 (2.4%)**	1 (4.5%)	0	**1 (2.1%)**	0	0	0	**0**
QLD	11 (30.6%)	6 (19.4%)	4 (13.8%)	12 (38.7%)	**33 (26%)**	3 (13.6%)	6 (24%)	**9 (19.1%)**	0	0	0	**0**
SA	0	1 (3.2%)	1 (3.4%)	2 (6.5%)	**4 (3.1%)**	0	0	**0**	0	0	0	**0**
TAS	1 (2.8%)	1 (3.2%)	0	2 (6.5%)	**4 (3.1%)**	0	3 (12%)	**3 (6.4%)**	0	0	0	**0**
VIC	9 (25%)	20 (64.5%)	13 (44.8%)	6 (19.4%)	**48 (37.8%)**	13 (59.1%)	12 (48%)	**25 (53.2%)**	0	2 (100%)	0	**2 (50%)**
WA	7 (19.4%)	0	4 (13.8%)	4 (12.9%)	**15 (11.8%)**	4 (18.2%)	0	**4 (8.5%)**	0	0	0	**0**
Not provided	0	0	0	0	**0**	0	0	**0**	1 (100%)	0	1 (100%)	**2 (50%)**
Total	**37**	**31**	**29**	**31**	**127**	**22**	**25**	**47**	**1**	**2**	**1**	**4**

Table 2: Phase 1 Follow-up interview participants

By State or Territory and education setting

	Parents (n=30)					Educators (n=7)			Students (n=12)				
State/ Territory	Home education	Distance education	Alternate education	Mainstream education	**Total parents**	Distance education	Alternate education	**Total educators**	Home education	Distance education	Alternate education	Mainstream education	**Total students**
ACT	1 (9.1%)	0	1 (20%)	1 (14.3%)	**3 (10%)**	0	0	**0**	0	0	0	0	**0**
NSW	1 (9.1%)	1 (14.3%)	1 (20%)	0	**3 (10%)**	0	1 (100%)	**1 (14.3%)**	0	1 (33.3%)	0	0	**1 (8.3%)**
NT	0	0	0	0	**0**	0	0	**0**	0	0	0	0	**0**
QLD	3 (27.3%)	2 (28.6%)	0	5 (71.4%)	**10 (33.3%)**	0	0	**0**	0	1 (33.3%)	0	2 (100%)	**3 (25%)**
SA	0	0	0	0	**0**	0	0	**0**	0	0	0	0	**0**
TAS	1 (9.1%)	1 (14.3%)	0	0	**2 (6.6%)**	0	0	**0**	0	0	0	0	**0**
VIC	1 (9.1%)	3 (42.9%)	2 (40%)	1 (14.3%)	**7 23.3%)**	6 (100%)	0	**6 (85.6%)**	1 (20%)	1 (33.3%)	2 (100%)	0	**4 (33.3%)**
WA	4 (36.3%)	0	1 (20%)	0	**5 (16.7%)**	0	0	**0**	4 (80%)	0	0	0	**4 (33.3%)**
Total	**11 (36.7%)**	**7 (23.3%)**	**5 (16.7%)**	**7 (23.3%)**	**30 (100%)**	**6 (85.6%)**	**1 (14.3%)**	**7 (100%)**	**5 (41.7%)**	**3 (25%)**	**2 (16.7%)**	**2 (16.7%)**	**12 (100%)**

3.3 Phase 2

RQ3. What factors influence the implementation of a TCC approach to support the professional learning and build capacity of educators in middle years contexts working with students on the autism spectrum to implement inclusive practices?

RQ4. What factors influence the implementation of a TCC approach as a school wide approach to support the professional learning of educators in middle years contexts?

3.3.1 Phase 2 Setting

Middle year's mainstream schooling contexts in regional, rural, and remote education communities in Queensland (QLD) and New South Wales (NSW) who indicated they required additional support to meet the needs of their learners on the spectrum.

3.3.2 Phase 2 Participants

3.3.2.1 Phase 2 School communities involved in the research

Table 3 provides information about each of the five schools involved in the study and is based on the Index of Community Social-Educational Advantage (ICSEA) developed by the Australian Curriculum and Assessment Reporting Authority (ACARA). ICSEA measures the social educational backgrounds of the students in school communities and is used to measure and compare academic results of different schools with similar student cohorts (ACARA, 2014). The lower the ICSEA value, the lower the level of educational advantage of the students who attend the school. The average ICSEA value is 1000 and the Australian average in the bottom quarter is 25%.

Four schools in QLD and one NSW school agreed to be part of the project. Non-identifiable information about these settings is available in the following table.

Table 3: Phase 2 Participants

Information about the school communities involved

School Site	ABS ASGS *	ICSEA 2020	School type	Staff	Enrolment information	IRSAD SEIFS score 2016*
1	Outer Regional	997 with 31% in bottom quarter	K – 12 non-Govt	25 teaching 15 non-teaching	236 total enrolments 50% boys 50% girls 8% Indigenous 2% LBOTE**	Quintile 3
2	Inner Regional	854 with 68% in bottom quarter	Prep – 6 Govt	44 teaching 40 non-teaching	535 total enrolments 55% boys 45% girls 44% Indigenous 9% LBOTE	Quintile 4
3	Inner Regional	902 with 61% in bottom quarter	Prep – 6 Govt	8 teaching 13 non-teaching	95 total enrolments 63% boys 37% girls 27% Indigenous 9% LBOTE	Quintile 4
4	Outer regional	1009 with 20% in bottom quarter	Prep – 6 Govt	39 teaching 29 non-teaching	548 total enrolments 56% boys 44% girls 11% Indigenous 22% LBOTE	Quintile 5
5	Outer Regional	951 with 36% in bottom quarter	Prep – 6 Govt	2 teaching 5 non-teaching	16 total enrolments 56% boys 44% girls 13% Indigenous 13% LBOTE	Quintile 2

* Australian Statistical Geography Standard (ASGS). ABS ASGS measure of remoteness sourced from ICSEA school facts
* Index of Relative Socio-economic Advantage and Disadvantage (IRSAD). Socio-Economic Indexes for Areas (SEIFA). ABS IRSAD SEIFS score 1= most disadvantaged, 5=most advantaged
** Language background other than English (LBOTE)

3.3.2.2 Phase 2 Individual participants involved and linked to each school community

Individual participants in Phase 2 included:

- *Multidisciplinary teams from Autism Queensland and ASPECT NSW*
  Multidisciplinary teams of therapists and specialist support staff from Autism Queensland and ASPECT NSW. These teams supported the needs of the middle years learners in the different contexts using the TCC approach.
- *Educators working with middle years learners on the autism spectrum*
  Educators/school leadership teams/specialist support staff working to support middle years learners in the project to gain a picture of their perceptions of the TCC approach and how it supported both their needs as an educator and in turn the student's learning needs.

Table 4 below provides more detailed information about the individual participants who were interviewed from each school for Phase 2 of the study.

Table 4: Phase 2 Individual participant information

	Educators Pre TCC	Educators Post TCC	Parents Pre TCC	Parents Post TCC	TCC Support Team Pre TCC	TCC Support Team Post TCC
School 1	1	1	0	3	1	1
School 2	2	1	0	0	3 worked across schools 2 and 3	3 worked across schools 2 and 3
School 3	1	2	0	0		
School 4	2	1	0	1	3 worked across schools 4 and 5	3 worked across schools 4 and 5
School 5	1	0	0	0		
Total Interviews	**7**	**5**	**0**	**4**	**7**	**7**
Total interviews: 14 Pre TCC						
Total interviews: 16 Post TCC						

3.3.4 Phase 2 Data collection

Qualitative data was collected in Phase 2 to evaluate the use of the MYBSP TCC approach in middle years contexts to promote the professional learning needs of educators working with students on the autism spectrum.

3.3.4.1 Qualitative measures

1. *Semi structured interviews* were conducted pre- and post-MYBSP TCC implementation with carers, educators, and research multidisciplinary team to collect relevant qualitative data on perceptions of TCC approach and implementation.
2. *Multidisciplinary team case notes and observations* were used to collect data on types of support provided and mode of delivery.

Qualitative approaches seek to "arrive at an understanding of a particular phenomenon from the perspective of those experiencing it" (Vaismoradi, Turunen, & Bondas, 2013, p. 398). In the middle years project this meant gaining perspectives from participants involved in the TCC approach across the five sites including the parents, educators, and specialist support teams through qualitative data collected through semi-structured interviews.

Qualitative data through interviews with key stakeholders was collected at two key time points:

1. pre-implementation/planning phase
2. post-implementation phase.

Data collection at these different time points consisted of separate phone/online interviews with participants involved in the project from the school community (e.g., teacher, principal, parent). Interviews were conducted by phone or online via Zoom software or Microsoft Teams and scheduled for a time convenient to the participants. According to Cohen, Manion and Morrison (2018), remote interviews have several advantages over other modes of interviewing that made them more suited to this study and far outweighed any disadvantages. For example, given the geographical location of the schools, remote interviews were cheaper and quicker to conduct with travel costs omitted and were more convenient for participants as they could be held at a time suitable to the participant, reducing interruptions and protecting the confidentiality of the respondents. Similarly, semi-structured interviews were considered the most advantageous form of interview as topics and questions could be organised in advance, but the questions could be open ended, and

the wording and sequence tailored to each individual participant and the responses they provided with prompts and probes also able to be provided if necessary (Cohen et al., 2018). Another contributing factor for conducting remote interviews was the movement restrictions in place during the COVID-19 pandemic.

3.4 Data analysis – Phases 1 and 2

3.4.1 Quantitative data analysis

Phase 1 collected data across Australia from participants in different middle years learning contexts using an online survey tool called Key Survey. Three different versions of the survey were developed, that is, a survey for educators, 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 in middle years contexts. 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 determine patterns and frequency of responses and to compare between groups and contexts.

3.4.2 Qualitative data analysis

Qualitative analyses of interviews were undertaken to identify key themes unique to specific stakeholders and common to all stakeholder groups. Semi-structured interviews with participants were conducted at the five different sites across two different time points and were audio recorded and transcribed verbatim to ensure direct quotes and extracts could be used to illuminate the qualitative data. This helps clarify links between data, and support the interpretation and conclusions discussed. Use of direct quotes can provide evidence, help explain and illustrate data, deepen understanding and enable the voice of the participants to be heard (Braun & Clarke, 2006; Corden & Sainsbury, 2006). According to Braun and Clarke (2019), “the purpose of thematic analysis is to identify patterns of meaning across a dataset that provide an answer to the research question being addressed. Patterns are identified through a rigorous process of data familiarisation, data coding, and theme development and revision” (para. 3). In this project, Braun and Clarke’s (2019) reflexive thematic analysis approach was used to analyse the data because it is theoretically flexible and suits questions related to “people’s experiences, or people’s views and perceptions” (Braun & Clarke, 2019,

para 3). The thematic analysis was approached in an inductive-dominant way (Armat, Assarroudi, Rad, Sharifi, & Heydari, 2018) whereby “coding and theme development were directed by the content of the data” (Braun & Clarke, 2019, para 3) in order to “identify, analyse, and report patterns (themes) within the data” and “reports experiences, meanings and the reality of participants” (Braun & Clarke, 2006, p. 81) to provide a “rich thematic description of your entire data set” in response to the research question and overall aims of the project (Braun & Clarke, 2006, p. 83). The analysis followed Braun and Clarke’s (2019) six phase approach and involved two researchers independently worked through the analysis process. This process started with both researchers independently reading the interviews to familiarise themselves with the data. They then independently generated a set of initial codes and conferred with each other and the team leader to verify their interpretation of the codes. This was followed by an independent search for broader themes among the codes before conferring with each other and the research team leader to verify their interpretation of the codes. The data was coded and classified according to the theme, interviewee (parent, teacher, or principal), and time the interview took place (pre-intervention and post-intervention). In steps 4 and 5, the themes were then reviewed and finalised in preparation for them to be reported on.

4. Findings

4.1 Phase 1

Findings from Phase 1 of the study across the three participant groups identified a range of factors that influenced parent and student education placement decisions regarding attending alternate settings. A summary of these factors is provided in Tables 5–9 below according to the participant group represented. Key factors influencing placement decisions were challenges families experienced have their child’s more complex learning needs met within mainstream environments and the additional mental health, anxiety, social and environmental challenges they experienced in this environment. Furthermore, the participant data suggested increased risk of bullying, social difficulties and inadequate support in mainstream schooling had led to changes placement. Data suggested much of the appeal of alternate settings was the increase flexibility and customisation of programming and support that could occur as well as the ability to reduce some of the stress and demands of more traditional school settings. Data highlighted that more support for social emotional wellbeing could also be a focus as well as tailoring more to individual needs, strengths, and interests as well as more ability to work at a pace that suited the learner. Negative factors were often

linked to the difficulty for parents trying to sustain alternate placement options (e.g., home education), more support and funding needed to support these placement options and the professional learning of staff and for many families it was a forced choice as a result of the challenges experienced in other placement options that had left them with no other options.

4.1.1 Educator perspectives

Tables 5 below summarises from an educator perspective, a range of key factors that were identified in Phase 1 of the study influencing parental decisions for their child to be educated within an alternate setting. These factors are valuable in informing work in inclusive settings to ensure autism friendly educational approaches are implemented that meet the diversity of learning needs of this group of learners.

Table 5: Educator perspectives of factors influencing placement decisions of middle years learners on the spectrum

Push factors	Pull factors
▪ Additional needs or complexities (e.g., mental health, social and communication difficulties, behaviour, school refusal) ▪ Child unable to cope with academic, social, or environmental factors of school ▪ Bullying ▪ Inadequate support or resourcing at school	▪ Improvement in child's symptoms or challenges ▪ Environment more suited to child's needs (e.g., physical safety, sensory comfort, social) ▪ Flexible/ customisable delivery of curriculum and assessment ▪ Additional supports and resources ▪ More positive, supportive relationship with teaching staff ▪ Removal of negative aspects of mainstream school (e.g., bullying, sensory overload, school refusal) ▪ School philosophy or management more appropriate for child's needs ▪ Environment suited to child's needs (safety, sensory, social) ▪ Removal of negative aspects of school ▪ Curriculum delivery and assessment tailored to child's needs (e.g., online lessons) ▪ More support and resources available ▪ Flexible participation - child works at own pace, pursues own interest, or chooses mode or time of participation ▪ Greater communication between educators/ specialists/ parents ▪ Specialist support and greater focus on wellbeing ▪ Greater parent involvement/ supervision ▪

4.1.2 Parent perspectives

Tables 6 below summarises from a parent perspective, a range of key factors that were identified in Phase 1 of the study that influenced their decisions for their child to be educated within an alternate setting. These perspectives are valuable in informing work in inclusive settings to ensure autism friendly educational approaches are implemented that meet the diversity of learning needs of this group of learners.

Table 6: Parent perspectives of factors influencing placement decisions of middle years learners on the spectrum

Push factors	Pull factors
Alternate/ Distance education	
▪ Additional needs or complexities (e.g., mental health, social and communication difficulties, behaviour, school refusal) ▪ Child unable to cope with academic, social or environmental factors of school ▪ Bullying ▪ Inadequate support or resourcing at school. ▪ Transition to high school ▪ Poor/ limited communication with parents ▪ Exclusion from MS	▪ Personal preference ▪ Personal experience or research ▪ Recommendation from educator or health professional ▪ School philosophy or management more appropriate for child's needs ▪ Additional supports and resources ▪ Environment more suited to child's needs (e.g., physical safety, sensory comfort, social) ▪ Flexible/customisable delivery of curriculum and assessment ▪ Flexible participation - child works at own pace, pursues own interest, or chooses mode or time of participation ▪ More positive and supportive relationship with teaching staff ▪ Specialist support and greater focus on wellbeing ▪ Greater parent involvement (e.g., supporting non-academic needs) ▪ Greater parental control over socialisation ▪ Separation of socialisation and learning
Home education	
▪ Additional needs or complexities (e.g., mental health, social and communication difficulties, behaviour, school refusal, gifted) ▪ Child unable to cope with academic, social or environmental factors of school ▪ Bullying ▪ Inadequate support or resourcing at school ▪ Transition to high school ▪ Poor/ limited communication with parents ▪ Exclusion from mainstream ▪ Parental dissatisfaction with mainstream schooling ▪ Inadequate supervision available for distance education ▪ COVID resulted in closure of schools/ online learning	▪ Personal preference ▪ Personal experience or research ▪ Environment more suited to child's needs (e.g., physical safety, sensory comfort, social) ▪ Flexible/ customisable delivery of curriculum and assessment/ focus on child's strengths ▪ Flexible participation - child works at own pace, pursues own interest, or chooses mode or time of participation ▪ Allows for asynchronous/ twice exceptional learning ▪ Greater parent involvement (e.g., supporting non-academic needs) ▪ Greater parental control over socialisation ▪ Separation of socialisation and learning ▪ Flexibility for excursions and social groups during day

Push factors	Pull factors
	▪ Does not have to conform to behavioural expectations (e.g., allows stimming)
Mainstream	
▪ Parent preference ▪ Enables child to make friends in local community/ build social skills ▪ Adequate support and resources in MS school (e.g., LSU ▪ Child coping adequately with academic, social, and environmental demands in mainstream ▪ Low support needs or parents did not know child had ASD ▪ Lack of alternate options	▪ Adequate support (e.g., teacher aides, support staff) and resourcing (e.g., sensory tools, computers, quiet space) ▪ Good communication between parents and schools ▪ Allied health support integrated into schooling ▪ Flexibility and resources to implement strategies (e.g., supervision of breaks) ▪ More opportunities for higher education ▪ Child capable of attending mainstream

Middle years learners on the spectrum also shared their view of some factors that influenced their placement in alternate education settings as summarised in Table 7 below. This table highlights that a key factor was the flexibility in how learning was presented and delivered and how the environment could be more easily manipulated and flexibility in how they participate to suit the needs of the student were factors that were appealing for learners on the spectrum.

4.1.4 Student perspectives

Table 7: Middle years learners on the spectrum perspectives of factors influencing placement decisions

Push factors	Pull factors
Alternate settings	
▪ Additional needs or complexities (e.g., mental health, social and communication difficulties, behaviour, school refusal) ▪ Child unable to cope with academic, social, or environmental factors of school ▪ Bullying	▪ School philosophy or management more appropriate for child's needs ▪ Additional supports and resources ▪ Environment more suited to child's needs (e.g., physical safety, sensory comfort, social) ▪ Flexible/ customisable delivery of curriculum and assessment ▪ Flexible participation - child works at own pace, pursues own interest, or chooses mode or time of participation ▪ More positive and supportive relationship with teaching staff (teachers help students ▪ Specialist support and greater focus on wellbeing ▪ Greater parent involvement (e.g., supporting non-academic needs, helping with work) ▪ Greater parental control over socialisation ▪ Separation of socialisation and learning ▪ Does not have to conform to behavioural expectations (e.g., allows stimming) ▪ Use of technology/ computers
Home education	
▪ Additional needs or complexities (e.g., mental health, social and communication difficulties, behaviour, school refusal, gifted) ▪ MS school boring or too easy ▪ Child unable to cope with academic, social, or environmental factors of school	▪ Environment more suited to child's needs (e.g., physical safety, sensory comfort, social) ▪ Flexible/ customisable delivery of curriculum and assessment/ focus on child's strengths ▪ Flexible participation - child works at own pace, pursues own interest, or chooses mode or time of participation ▪ Flexibility for excursions and social groups during day – see friends more ▪ Greater parent involvement (e.g., supporting non-academic needs, helping with work) ▪ Does not have to conform to behavioural expectations (e.g., allows stimming) ▪ Use of computers

In summary in Phase 1 of the project, from perspectives of the three different participant groups there were several views they shared in relation to:

***Push factors* influencing placement decisions of middle years learners on the spectrum, which were common to all participant groups**

- Challenges families experienced have their child's more complex learning needs met within mainstream environments
  - Additional mental health, anxiety, social and environmental challenges experienced in this environment
  - Increased risk of bullying, social difficulties, and inadequate support in mainstream schooling.

***Pull factors* attracting families to alternate education, which were reported by all participant groups**

- Additional supports and resources
  - Environment more suited to child's needs (e.g., physical safety, sensory comfort, social)
  - Flexible/ customisable delivery of curriculum and assessment
  - Flexible participation – child works at own pace, pursues own interest, or chooses mode or time of participation
  - More positive and supportive relationship with teaching staff (teachers help students)
  - Specialist support and greater focus on wellbeing
  - Greater parent involvement (e.g., supporting non-academic needs, helping with work)
  - Does not have to conform to behavioural expectations
  - Improvement in child (mental health/ learning engagement).

Some *negative aspects* of alternate education settings

- Lack of support and resources for parents
  - Difficulty teaching certain content areas and levels
  - Finding appropriate supports and funding
  - Lack of choice/ difficulty finding an appropriate setting for child's needs
  - Difficult family dynamics or home environment
  - Complex child needs or characteristics
  - Isolation/ lack of socialisation.

4.2 Phase 2

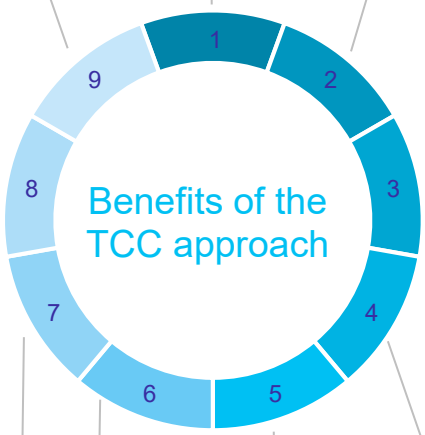
Phase 2 of the project extended a trial of the TCC approach described in the Autism CRC Early Years Behaviour Support Project (MYBSP; see https://www.autismcrc.com.au/our-programs/school-years/early-years-behaviour-support-project-eybsp for more detail). The focus in the current project was to extend the use of this approach trialled to support the professional learning and support of educators working with individual learners on the spectrum in the early years of schooling to supporting the wider school community of middle years learners on the spectrum by trialling a more whole school focus to support, professional learning, and capacity building within the school environment.

4.2.1 Benefits of the TCC approach

Extending the findings of the EYBS project the current project identified a range of benefits and positive outcomes to utilising a TCC approach to building capacity in schools in regional, rural, and remote areas and to support them to meet the needs of middle years learners, implement the use of inclusive practices of benefit to all students and promote professional learning for staff. Analysing the data nine key themes emerged in relation to the benefits of a TCC approach for building capacity in our schools to be more supportive. These themes related to:

1. building school capacity
2. supporting a whole school approach
3. building staff capacity
4. supporting staff professional development
5. promoting parent engagement
6. promoting student engagement
7. supporting school with more individualised, needs responsive student support
8. providing access to specialist support and services
9. promoting ideas that had application to the wider student cohort

Figure 1: Benefits of the TCC approach



Build school capacity
Examples generated from the data suggested the TCC approach supported schools to create more autism friendly classrooms, analyse and refine their pedagogies and practices supporting communication about individual students and their needs across the wider school context, supporting adjustment to whole school approaches to further cater to the needs of individual students.

Support a whole school approach
The data highlighted how the TCC approach supported schools to transition from a more special education to inclusive focus for support across the whole school and more inclusive teaching models of practice.

Promote ideas that had application to the wider student cohort
Importantly the TCC approach gave schools access to knowledge and ideas that they could apply/tweak to use with other students and apply across the whole school or to any classroom.

Build staff capacity
Participants highlighted how the TCC approach helped upskill teaching staff which in turn gave them more confidence to support learners on the spectrum and develop a better understanding of this student cohorts needs and challenged staff to think how they were approaching situations. In addition, the approach communication across staff and the school and promoted staff ownership over what they were doing and how they did it.

Provide access to specialist support and services
The TCC approach gave schools access on a regular basis to autism specific knowledge and multidisciplinary support they may not otherwise have available to them and in a cost effective and contextually responsive way.

Promote parent engagement
Similar to the EYBSP findings, the MYBSP supported more open communication between the school and parents.

Support staff professional development
Linked to building staff capacity was the opportunities this approach provided for in-situ and context specific professional learning and development that promoted a whole school approach to inclusive practices and support student engagement, participation and learning and increased likelihood of support strategies being implemented with fidelity and consistency across the whole school environment and promoted a collective view amongst staff of what was needed.

Support school with more individualised, needs responsive student support
It was evident from the data that the TCC approach support schools to implement more individualised, specialised, intensive supports to students on the spectrum who needed it and supported schools to identify goals and aims in support plans, make appropriate curriculum adjustments, differentiate the curriculum, support transitions, advocate for student needs and tailor the adjustments to meet the more individual needs of some students experienced.

Promote student engagement
Data from the different school settings provide evidence of positive outcomes for individual students requiring more targeted and intensive support who benefited from the TCC approach their schools received with students in many cases able to manage, navigate and cope in the school environment more successfully.

4.2.1.1 Positive outcomes using the TCC approach

As a result of implementing a TCC approach in 5 school communities across QLD and NSW the participants identified positive outcomes including:

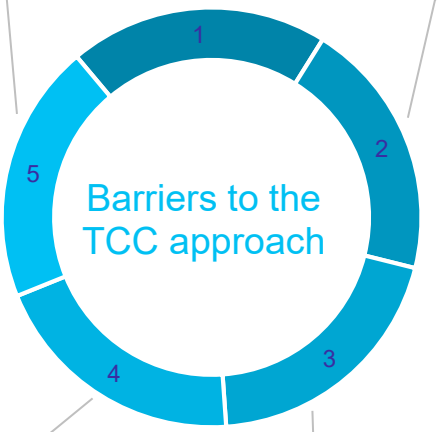
- access to specialist supports and services they were able to receive and the open relationships that were created in working with multidisciplinary teams
- the ability the TCC approach provided using a hybrid model of remote and fact-to-face support to be able to observe the school environment firsthand and provide contextually fit support
- positive parent engagement/collaborative partnerships that were nurtured that developed
- building school capacity to embed more explicit strategies to support the more individualised needs some students on the spectrum experienced in the school environment as well as more whole school overarching strategies that promoted autism friendly environments but also had wider application supporting the needs of other learners in the school community
- implementation of student supports that nurtured a sense of connection and belonging with the school environment
- increased student engagement and participation.

4.2.1.2 Barriers to the TCC approach

Evidence from the data also highlighted several barriers to this approach that need further refining to maximise success Themes generated from the data related to several key themes linked to barriers in implementing this approach. It is important to note that data from 12 participants did not highlight any barriers to this approach. Barriers that were generated from the data included:

1. time to participate, implement ideas, and create change
2. TCC mode of delivery
3. technology
4. changes in personnel
5. flexible mode of delivery.

Figure 2: Barriers to the TCC approach



Time
Staff needing more allocated time to collaborate and plan with the TCC team for collaboration whether remotely or face to face as well as time needed to try and implement ideas. Would take much longer than anticipated to create small elements of change often due to:

- Complex nature of some of the students that we were supporting
- Staff dynamics
- How to facilitate a whole-school approach and shifting attitudes takes time

Flexible mode of delivery
While flexible mode of delivery of TCC approach and how it would roll out in school was important to ensure it was responsive to the needs of the school and beneficial, schools need a clearer idea of how the process will work in their school and the structure and this requires a lot of time conducting a needs analysis of where school is at, what they want and how to instil change, as well as establishing time commitments, time frame for support, who will be involved, how and what modes of communication and liaison will occur.

TCC mode of delivery
Face-to-face meeting still often preferred mode of delivery of support even with hybrid model. It is important that hybrid model starts with face-to-face consultation possibly with a remote meeting and initial pre-trip planning and information gathering to be held to introduce team and school staff to each other and collect some information about the needs of the school community prior to the first initial face to face meeting to make the most of face-to-face delivery

Changes in personnel
Key relationships that are built up throughout the process often change due to changes in personnel which then slows progress and relationships have to be re-established when start working with someone new

Technology
Despite participants being more comfortable with technology and doing things remotely technology often presents challenges and schools, personnel and TCC team identified:

- Difficulty accessing a consistent, videoconference system, that is set up, tested, and that has permissions from all school systems and personnel involved
- Intermittent internet connection or slow internet speeds often requiring meetings via phone
- Hybrid approach to remote support needed with email pivotal to sustainable communication, paired with online meetings via Zoom or Teams and phone calls
- Staff not knowing how to use software

5. Limitations

While the findings of this study provide important information to the field, limitations are evident including the small number, cross sectional, and self-report/self-selected nature of the participant pools. The lack of equity in number in different stakeholder groups as well as between different state and geographical locations nationwide may limit the generalisability of findings in Phase 1.

In Phase 2 while the findings provide important information to the field, limitations in this research included the self-report nature of the some of the findings, not all participants completing all of the time point interviews and data collection instruments as well as children and teachers transferring out of research sites and small numbers of key participants that data was collected from. In addition, some limitations to the TCC approach were identified by the therapist, principal, educator, and parent participants. These included time constraints for teachers in attending sessions; functionality of the technology and technological literacy of participants; internet capabilities within the geographic region.

6. Implications for future research

These limitations could extend the direction of future research and practice in the field to explore in more depth the factors influencing alternate placement decisions and how this may inform the implementation of inclusive practices in mainstream settings. Further, extending trials of a TCC approach as a professional learning approach to build capacity with wider range of age groups, personnel, and school contexts over longer periods of time and across a range of geographical contexts would be useful.

Phase 1 of this study has reinforced that to be truly inclusive and autism friendly in our school system a lot further work is needed to support the more challenging and complex needs students on the autism spectrum may experience in school settings and importantly we need to identify how we best support teachers and staff with the professional learning, skills and confidence to implement what is needed and what else is needed in schools to effectively achieve this goal.

Phase 2 of the study further extends findings from the Autism CRC EYBSP project and highlights the potential that the TCC approach developed by the research team for these two projects has application and viability in school system to not only help them support

educators with individual students needs but also to build capacity across whole school environments and with different age groups. In the new pandemic environment, we live in, this hybrid model has the potential to continue to fill a gap in providing ongoing contextually fit support and professional learning to educators in cost effective ways and could be further refined and adapted to achieve this.

7. Key recommendations and conclusions

1. A critical recommendation to come out of Phase 1 of this study is that for many learners on the spectrum we are “not there yet” in providing truly inclusive mainstream environments that meet their needs effectively and maximise their participation and engagement in education contexts.

2. To be truly inclusive we need further support in our schools to support student social emotional wellbeing. Several factors continue to be flagged as issues in effectively supporting this group of students with some of their more complex and individualised needs within educational contexts not being adequately met (e.g., not having their needs met, managing mental health concerns, anxiety, navigating social elements of the environment). Social emotional learning and wellbeing drive academic success and need to be foundational to everything we do in schools.

3. The more complex learning profiles many students on the spectrum can experience need to be understood and more adequately supported in schools. This is going to require more professional development and learning for educators but also importantly ensuring educators have adequate specialised support to address these more complex needs.

4. Furthermore, there continues to be several factors flagged by educators around the difficulties they experience effectively doing this (e.g., time, funding, specialist support, professional learning, demands of the curriculum, staff wellbeing). The six guiding principles developed from the research in EYBSP and MYBSP using a TCC approach in schools is a starting point for working in schools, building their capacity and supporting both the educators and student wellbeing and success in education environments (see point 4).

5. It is important for us to understand how we can best support collaborative partnerships and contextualised professional learning in schools. The EYBSP and MYBSP research has identified 6 guiding principles that inform how we collaborate, consult with, provide support to and develop partnerships with students, families and in school communities to

support student success and wellbeing. The six guiding principles focus on the importance of:

i) communication
ii) promoting relationships
iii) developing shared goals
iv) building capacity of staff and schools
v) multidisciplinary support from personnel with appropriate knowledge and understanding of autism
vi) individualised and contextually fit approaches that go beyond academic support to wellbeing support.

7.1.1 Conclusion

To be truly inclusive we need to continue to work hard to put in place strategies to meet the more complex needs many students on the spectrum and other learner cohorts may experience. These strategies will require going beyond the traditional focus on support for academic learning and assessment to support that:

1. is strengths and special interest based
2. is flexible in delivery, pacing and adjustments
3. is needs responsive
4. helps navigate and manage the social elements of the environment
5. acknowledges social emotional wellbeing and mental health
6. nurtures executive function skills
7. minimises environmental barriers
8. focuses on maximising success
9. promotes a sense of connection and belonging and
10. supports transitions
11. supports the more complex learning profiles some learners on the spectrum experience.

To do this further ongoing professional learning, specialist support, time, funding, and resources need to be available to support our educators in contextually fit ways and delivered in innovative, ongoing, cost effective, time efficient ways (e.g., TCC approach). Furthermore, for educators to successfully promote wellbeing, a sense of belonging and academic success in our learners they need to be supported with their own wellbeing and sense of belonging in the school environment as well as provided with adequate support to address the more complex needs many learners experience within educational contexts.

8. References

Armat, M., Assarroudi, A., Rad, M., Sharifi, H., & Heydari, A. (2018). Inductive and deductive: Ambiguous labels in qualitative content analysis. *The Qualitative Report*, *23*(1), 219–221.

Australian Bureau of Statistics. (2019, October 24). Autism in Australia*. Disability, Ageing and Carers, Australia: Summary of Findings, 2018.* https://www.abs.gov.au/statistics/health/disability/disability-ageing-and-carers-australia-summary-findings/latest-release#autism-in-australia

Australian Bureau of Statistics. (2018). *Census of Population and Housing: Socio-Economic Indexes for Areas (SEIFA), Australia, 2016.* Catalogue Number 2033.0.55.001. Issue released 27/03/2018. https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2033.0.55.001~2016~Main%20Features~IRSAD%20Interactive%20Map~16

Australian Curriculum, Assessment and Reporting Authority (ACARA). (2014). *What does the ICSEA value* mean*?* http://docs.acara.edu.au/resources/About_icsea_2014.pdf

Autism CRC. Early Years Behaviour Support Project (EYBSP) https://www.autismcrc.com.au/our-programs/school-years/early-years-behaviour-support-project-eybsp

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2019). *Guidelines for reviewers and editors evaluating thematic analysis manuscripts*. https://cdn.auckland.ac.nz/assets/psych/about/our-research/documents/Checklist%20for%20reviewers%20and%20editors%20evaluating%20thematic%20analysis%20manuscripts.pdf

Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education* (8th ed.). London: Routledge.

Corden, A., & Sainsbury, R. (2006). Exploring 'quality': Research participants' perspectives on verbatim quotations. *International Journal of Social Research Methodology*, *9*(2), 97–110. https://doi.org/10.1080/13645570600595264

Headley M.G. & Plano Clark V. L. (2020) Multilevel Mixed Methods Research Designs: Advancing a Refined Definition. Journal of Mixed Methods Research. 2020;14(2):145-163. https://doi.org/10.1177%2F1558689819844417

Mason, Morris, K., Webb, C., Daniels, B., Featherstone, B., Bywaters, P., Mirza, N., Hooper, J., Brady, G., Bunting, L., & Scourfield, J. (2020). Toward Full Integration of Quantitative and Qualitative Methods in Case Study Research: Insights from Investigating Child Welfare Inequalities. *Journal of Mixed Methods Research*, *14*(2), 164–183. https://doi.org/10.1177/1558689819857972

Roberts, J., (2019). Chapter 26. Building capacity in education systems. In Jordan, R., Roberts, J. M., & Hume, K. (Eds.). (2019). *The SAGE Handbook of Autism and Education*. SAGE Publications.

Saggers, B., & Beasley, T. (2020). Chapter 19. Students on the autism spectrum: Influences on the middle-years-learner. In Saggers. (2020). *Developing positive classroom environments: strategies for nurturing adolescent learning*. Routledge, Taylor & Francis Group.

Saggers, B., Klug, D., Harper-Hill, K., Ashburner, J., Costley, D., Clark, T., Bruck, S., Trembath, D., Webster, A. A., & Carrington, S. (2018). *Australian Autism Educational Needs Analysis – What are the needs of schools, parents and students on the autism spectrum?* https://www.autismcrc.com.au/knowledge-centre/reports/australian-autism-educational-needsanalysis

Vaismoradi, M., Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing & Health Sciences*, *15*(3), 398–405. https://doi.org/10.1111/nhs.12048

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Our values

Inclusion

Working together with those with the lived experience of autism in all we do

Innovation

New solutions for long term challenges

Evidence

Guided by evidence-based research and peer review

Independence

Maintaining autonomy and integrity

Cooperation

Bringing benefits to our partners; capturing opportunities they cannot capture alone

Australian Government
Department of Industry, Science, Energy and Resources

AusIndustry
Cooperative Research Centres Program