

Early Years Behaviour Support Program (EYBSP)

Application of tele-classroom consulting (TCC) practices to support classroom teachers to meet the challenging and complex needs of students on the autism spectrum in the early years of schooling (5–8 years)

EXECUTIVE SUMMARY

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Business Cooperative Research Centres Program

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

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Abstract

Students on the autism spectrum have unique learning needs which teachers may find challenging to adequately support. This can be an ongoing concern for teachers in rural and remote communities due to geographical isolation and a lack of professional learning opportunities. To meet the learning needs of students on the spectrum in these regions, teachers often need access to effective, ongoing support delivered in a timely and contextually appropriate manner. This report presents findings from five school community case studies, describing a flexible, multidisciplinary approach that provides classroom teachers with in-situ professional learning to help meet the more complex and individualised needs some students on the spectrum may experience in school settings. The Teleconsultation Classroom (TCC) approach involved a combination of face-to-face visits and more remote support through phone conversations, emails and video conferencing to facilitate collaboration between classroom teachers and outside specialists. This method demonstrates positive results in providing cost-effective, contextualised support to teachers in rural and remote regions, promoting their professional learning and allowing professional relationships to develop despite distance and cost constraints. Guiding principles are outlined to ensure the success, application and sustainability of the TCC approach in rural and remote settings and consideration of its application in more urban settings.

Introduction

Students on the autism spectrum may present with unique learning needs that learning communities can at times find challenging to adequately and appropriately respond to. If the needs of this group of learners are not adequately met, they can experience difficulties coping with the demands of the learning environment. This may result in more challenging and complex behavioural and learning needs, poorer learning outcomes and less success at school.

Professional learning is often considered at the heart of teacher practice and is an important tool in helping improve teacher confidence to meet the needs of all learners in their care. In order for school communities to successfully and confidently meet the needs of all learners in their care, it is important for education systems to consider how they can deliver contextualised, appropriate and ongoing professional learning for teachers as part of a suite of support that teachers can access in their daily practice.

It is well recognised that rural and remote educators face additional challenges to their metropolitan counterparts with geographical isolation and lack of professional experience being two key factors (Glover et al., 2016; Kline & Walker-Gibbs, 2015). Geographical isolation can



contribute to feelings of personal and professional isolation with limited access to professional developmental opportunities and a lack of support networks often an issue (Downes & Roberts, 2017; Glover et al., 2016).

Something that more traditional forms of professional learning often fail to recognise is that school communities are not static environments, but rather are very complex, ever evolving, socially demanding and dynamic nested sets of context specific learning environments. Furthermore, the complexity of school and classroom environments is often reflected in very different, unique and idiosyncratic ways within individual school and classroom settings. Rural spaces and rural schools are in themselves each quite unique in their own right and influenced by the economy, geography and demography of these rural social spaces and the interrelatedness of these factors (Reid et al., 2010; White et al., 2011).

Some researchers and practitioners—particularly those within the medical and allied health field—have begun to examine alternatives to conventional (i.e., face-to-face) means for service delivery and support (Frieder, Peterson, Woodward, Crane, & Garner, 2009). Many of these approaches have utilised technology to provide or augment a service delivery and professional learning; however, there has been limited application of this approach in education contexts.

Teleconsultation approaches use electronic communications and information technology to provide and support participants when distance separates the participants (Darkins, 2001).

Teleconsultation has started to be used more widely as an innovative approach in the health sector in a telehealth/psychiatry/medicine approach with widespread popularity and success (American Academy of Child and Adolescent Psychiatry (AACAP), 2008). To date, however, this style of support has had limited application in the field of education with it only being more recently adopted in education with the benefit of instantaneous feedback to educator recognised (Bice-Urbach & Kratochwill, 2016; Gibson, Pennington, Stenhoff, & Hopper, 2010).

The Tele-Classroom Consultation (TCC) approach used in the Early Years Behaviour Support Program (EYBSP) trialled the use of teleconsultation as a cost-efficient tool to augment service delivery, contextualise support and provide ongoing professional learning to educators of early years learners on the spectrum in rural and remote regions of New South Wales and Queensland through a problem solving consultative approach.

EYBSP Research Aims

The overall aim of the EYBSP was to support the professional learning of educators in rural and remote regions to meet the more complex and individualised needs of learners on the autism



spectrum in inclusive classroom settings. The TCC approach that was developed to trial for this project drew on Positive Behaviour Support (PBS) strategies - a multidisciplinary, problem solving approach through the use of conjoint behavioural consultation - to deliver in-situ and ongoing support to promote the professional development and learning of educators in rural and remote communities. The teleconsultation approach delivered more ongoing consultation to support the needs of the schools, young learners on the autism spectrum and their families, and ensured a cost-effective ongoing mode of delivery could be trialled in regional areas.

The context of this exploratory case study is bounded by five school settings in rural and remote regions of Queensland and New South Wales where early years learners on the autism spectrum were identified by families and school staff as having more complex or individualised needs that required additional professional learning and support delivered to the educators in order for them to effectively meet these children's learning needs. A case study protocol was developed and used multiple methods to gather information at three data collection points within each school setting. Researchers followed Yin's (2009) principles, using a consistent data protocol that enhanced cross-case analysis. Data describes the early years learners, the school environment and educators involved, and outcomes. The findings provide a detailed description of outcomes within each case and outcomes that are common across cases.

Research Questions

The overarching EYBSP research question was:

How could the trialling of a Tele-Classroom Consultation (TCC) approach deliver a cost-efficient service delivery and support option to educators in rural and remote regions, to promote their professional learning and confidence to more effectively implement support catering to the more complex and individualised learning needs of early years learners on the autism spectrum in their care?

The project aimed to trial how a TCC approach promoted the professional learning and confidence of regional and remote teachers to support the more individualised needs of early years learners on the autism spectrum within inclusive settings. With this in mind, sub-research questions that were considered were:



- i) How can a TCC approach support the more complex and individualised needs some early years learners on the autism spectrum experience in regional and remote inclusive education contexts?
- ii) How can a TCC approach be applied to a variety of geographical regions, student needs and educational contexts?
- iii) What guiding principles can be developed for using a TCC approach in schools?

Participants

Across the five research sites, 20 participants were involved in interviews and worked with the team to collect data. Participants consisted of ancillary staff (n=1), school-based specialist support staff (n=2), principals (n=3), educators (n=4), parents of early years learners on the autism spectrum (n=3) and research specialist support staff implementing the TCC approach (n=7). Data was not collected from students due to their age.

Procedure

The collaborative problem solving TCC approach involved the implementation of the following process when working with families and schools across the three years of the study and the five case studies. When a school and family consented to be part of the research project, the following process was followed:

- i) Initial contact with school and family involved.
- ii) Initial face-to-face consultation with identification and discussion of the needs of the family, student and school. Interviews conducted and core assessments completed.
- iii) Plan of support and TCC approach developed.
- iv) Implementation via a mix of remote and face-to-face support.
- v) Monitor and review periodically based on individual needs.
- vi) Follow-up and exit plan developed

The TCC Approach

The TCC approach and the focus of professional learning and support was different in each context based on the needs of the school site, the educators and the learners involved. The format and regularity of the TCC support was determined in consultation with the participants and also responded to their preferences for the mode of delivery of the remote support (email communication, phone calls or video conferences) in combination with scheduled face-to-face



visits. The regularity of the support and when and how it was delivered was also determined in consultation with individual participants. This ensured the approach was responsive to participant needs and preferences allowing for timely responses to teacher needs and ongoing support, responsive to individual needs and was delivered in a cost-effective manner.

The frequency and mode of collaboration was determined in consultation with participants. Each school and family (if they chose to) was provided with an iPad with its own 4G sim card and collaborative software loaded to the machine. The initial software that was used was adapted from telehealth software. However, feedback from participants in the first two research sites indicated this was not effective for the TCC rolled out in education settings and required too much training. As a result, research sites in years 2 and 3 of the project trialled the use of Zoom software which was quicker and easier to use and better met the needs of this project. Feedback from the first two research sites highlighted the importance of teacher release time to support the project and the consultation required and therefore latter research sites were provided with limited funds to support teacher release time for the purpose of the project.

Data Collection

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 early 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. The current study reports on the findings of implementing a TCC approach across five schools (QLD n=3, NSW n=2) and the influence of this approach on the teacher's ability to meet the more individualised needs of early years learners on the spectrum in their care.

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

- i) Pre-implementation/planning phase,
- ii) Mid-implementation phase, and
- iii) 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 and scheduled for a time convenient to the participants.



Data Analysis

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). In the cross-case analysis, there were six final themes to emerge from the data regarding the TCC approach, including: 1) school climate, 2) relationships, 3) sustainability, 4) support strategies, 5) benefits, and 6) barriers. These themes are also used to inform the development of guiding principles for consideration in implementing a TCC approach in education settings.

Cross-Case Study Findings

There were six final key themes to emerge from the data regarding the TCC approach including the importance of the following considerations when implementing this approach: 1) school climate, 2) relationships, 3) sustainability, 4) support strategies, 5) benefits, and 6) barriers. These themes are used to inform the development of guiding principles for this approach.

School Climate

Essential to the TCC approach was engaging with school communities that had a focus on supporting inclusion in their school community. Their level of understanding and experience of teaching learners on the autism spectrum was not as important as being prepared to learn what the needs of this group of learners are and how they can further refine or adjust what they are doing in order to meet the needs of this groups of students and all learners. As a result, they needed the capacity, willingness and motivation to reflect on and be prepared to change what they were doing in their daily practice in order to maximise their ability to meet the needs of all students in their care including learners on the autism spectrum. They needed to embrace the TCC approach as a non-threatening way to engage in in-situ professional development that could help build the school community's confidence to meet the needs of all learners across a classroom and school context.

Relationships

Foundational to the TCC approach was a focus on building and sustaining positive relationships with relevant stakeholders within the school community including, parents, class teachers, principals and administrative staff, specialist support staff and teacher aides. Key elements of these relationships were the face-to-face visits, long-term remote support, processes to support



positive communication and collaboration and involvement of all key stakeholders including parents. The approach was also considered to reduce isolation experienced by class teachers when managing the needs of all learners in their class and school.

i) Face-to-Face Visits

Essential to the building of these relationships was the integration of face-to-face visits interlaced in the remote support provided. These face-to-face visits helped bring together all key stakeholders including parents, class teachers, principals and administrative staff, specialist support staff and teacher aides. The problem solving consultation approach promoted the establishment of positive and collaborative partnerships and a team approach to meeting the needs of the learner where everyone had an important role to play, and everyone's contribution was important and established connectedness, shared goals, purpose and perspectives. The face-to-face visits had an important role to play in helping understand contextual and individual needs of the school, school personnel, learners and parents. These face-to-face visits also helped to establish trust and rapport with all stakeholders and establish communication networks across the school, community and family. These visits provided the opportunity to identify what was currently happening through assessment, discussion and observation in-situ. Results suggest the more challenging and complex the needs of the student and/or the more personnel that are involved, the more frequent the face-to-face visits need to be to help support staff uptake of practices and promote the collaborative nature of the relationship and provide in-situ problem solving consultation. These face-to-face visits enabled a plan for the TCC approach to be developed that was responsive to the needs of all involved including the learner, school community and families. This approach empowered stakeholders to identify what their needs were, how they wanted the approach to work and with what frequency and enabled the approach to be responsive to the contextual needs of all stakeholders.

ii) Communication

Communication was key to this approach. The TCC approach enabled positive lines of communication to be established and sustained and was key to the success of this approach. The long-term remote approach (through emails, phone contact and virtual collaborative software) that was integrated with face-to-face visits allowed for lines of communication to be consolidated and sustained with all relevant key personnel and provided the opportunity to conduct problem solving consultation around practices so that they could be reviewed, refined and revised in an ongoing manner in order to tailor them to the needs of the context. This communication also allowed for relationships to be consolidated and sustained long term and professional development to continue



beyond face-to-face visits and kept the goals as a key focus for all involved. It also promoted the involvement of all key stakeholders and a positive avenue for feedback and consultation and ensured consistent communication amongst all stakeholders.

Sustainability

The TCC approach enabled the implementation of sustainable inclusive practices through the utility of the approach and its application/generalisation to other learners' needs. The approach achieved this in several ways, including through promoting involvement of all stakeholders including parents in positive collaborative ways, and the delivery of a flexible approach that could be tailored to meet the individualised needs of all involved while being responsive to the context. The ongoing nature of contact in a range of modes allowed practices to be tailored and tweaked long term, feedback and professional development to be ongoing and contextualised and allowed access to practices developed by a multidisciplinary team. A spin off of the approach was that many practices and/or resources had application across the whole class or other students in the class or school environment and were shared with other staff in the school community.

i) Commitment

The approach had a substantial commitment with regular and ongoing collaborations needing to occur and be delivered in a range of modes, as suggested by staff involved. Time was a real barrier to providing support in schools; however, the project gave teachers and school communities permission to protect or commit time for students and their needs. Staff could see the benefit of this commitment if they could see how practices could apply to other learners on the autism spectrum or applied to other students. It was also considered by participants as a valuable professional development experience for staff. However, it was difficult to sustain the ongoing nature of this collaboration unless given allocated time to do so through teacher release time.

Benefits

There were a range of benefits identified by this approach including improvements of varying degrees across all five case studies with reductions in behavioural incidents and improvements in literacy, social engagement, positive behaviour, reduced anxiety and increased participation. The benefits also included reduced feelings of isolation, increased teacher confidence and ability to advocate for the needs of learners in their care, the opportunity to receive intensive, ongoing specific and tailored advice, and receiving ongoing professional development and access to multidisciplinary expertise. Another benefit was the support this approach provided to manage and



improve relationships with all stakeholders through establishing positive and collaborative practices with a shared purpose and goals.

Barriers

Several barriers to the TCC approach were identified, including turnover of staff, student absenteeism and students transferring to other school settings or locations. A key barrier was finding a suitable virtual collaborative software that was quick and easy to use with limited training or IT knowledge as well as internet capacity/connectivity in some rural regions. Other barriers identified were time constraints and finding a private space to consult online that allowed confidentiality and the need for ongoing support to be sustained beyond the life of the project. Many schools would have liked support to continue and more face-to-face visits included when the needs of the learner were very complex or challenging for the school.

PhD Projects Linked to the Early Years Behaviour Support Project

There were two PhD projects that received some funding from the Autism CRC that were linked to this project.

PhD Study 1 - Communities of Practice

Full time funding was received from the Autism CRC to conduct a PhD within the larger 3-year EYBSP research project. This PhD, through a multiple-case research design, explored how utilising a TCC approach could support and sustain a community of practice (CoP) for educators in two of the five rural schools where the TCC approach was being implemented. Wenger, McDermott and Snyder (2002, p. 4) have defined CoPs as "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis". Within education, CoPs have been widely applied as a method of professional development for educators to address challenges and improve student outcomes (Goodnough, 2004; Vescio, Ross, & Adams, 2008) but, to date, there has been minimal application of this approach to support educators of students on the spectrum. In this study, the PhD research was conducted in EYBSP school study site 4 (ESQS) and school study site 5 (QCSL) and investigated how a TCC approach may support and sustain a community of practice within the school community. Several sub-questions included:

- How were the CoP elements supported within the TCC approach?
- How did community members benefit from their participation within the CoP?



- What elements of a CoP can be expressed within a TCC approach? If they were present, how did they change throughout the intervention?
- What short-term outcomes do members of a community associate with their participation within a CoP?

Data were collected through observation and interviews at two key stages approximately one year apart – pre and post implementation – and the data analysis process was guided by a grounded theory approach (Charmaz, 2006). The results provided insight into how the TCC approach supported the evolution of CoPs within the two sites. While study site 4 exhibited only minor developments to the pre-existing CoP, study site 5 saw extensive growth to the pre-existing CoP as well as various short-term benefits for educators. Various factors were identified within the data that can explain the discrepancy in practice uptake between the two sites and the level of development in the CoP that developed in the two sites. The short-term values of the CoP that evolved due to the TCC approach implemented in both schools included:

- opportunity to reach out to knowledgeable individuals,
- opportunity to receive support to overcome challenges experienced in the school setting,
- enjoyment working with community members, and
- growth in staff confidence.

Recommendations for Supporting a Community of Practice: Implications for Practice

The following are essential when implementing practices through a TCC approach to support a CoP:

- Positive change is more likely to occur when supported by a shared goal (Domain) and supportive community (Community).
- Face-to-face time is essential.
- Communication is key to promoting a successful CoP.
- Development of a CoP is a gradual process.

PhD Study 2 – Co-Design Digital Strategies for Supporting Strengths- and Interests-Based Learning with Children on the Autism Spectrum

A second PhD study received some top up funds from the Autism CRC to conduct a PhD within the larger 3-year EYBSP research project. Technologies offer the opportunity to personalise a child's learning with their own content. Under the auspice of the EYBSP, this project focused on using technologies to mobilise the child's specific interests, strengths and capabilities and promote self-



expression. This project engaged children on the spectrum to record and express their own interests within the contexts of their home and classroom. The technology used for self-expression was an existing concrete audio-visual calendaring app prototype called MeCalendar for the iPad

The prototype was trialled in two autism specific classroom settings with six children aged 6–7 years with varying levels of ability and two classroom teachers. The aim of the research was to explore how children on the spectrum and their teachers adopt the open-ended design of supportive technologies for use in classroom settings. The children were each provided with an iPad mini 2, with the internet access disabled, and the iPads were used solely for MeCalendar. Within these contexts, to ensure a contextual fit between the introduction of this technology and their current practices, how the technology was implemented was kept open-ended and teachers were therefore asked to use the app in any way they wished in the classroom and had complete freedom over how it was implemented. Data were collected through diary entries, participant observation and interviews.

The results suggested the app was used in both teacher-led ways mainly for learning and behavioural outcomes and child-led ways that were based on their own interests.

Results demonstrated that for the classroom teachers the app supported:

- Verbal ability of minimally verbal students
- Class-based tasks particularly in relation to individual education goals
- Socialisation amongst peers
- Positive behaviour and video modelling
- Concepts of time and passing of time due to calendar format
- Using the child's own interests for learning

In contrast, for the children the app supported them to:

- Try something new or break with routine
- Engage in handwriting spontaneously
- Adjust class tasks and learn in different ways
- Be proud of their achievements
- Have fun, play, engage with others and share interests

The findings indicate that when used in an open-ended implementation approach, teachers utilise the technology in contextually responsive, open and flexible ways to support a range of individual needs of their learners, supporting an interest-focused approach. They could adjust how they used the app to suit their teaching style, to scaffold activities and to meet the learning goals in their



classrooms. The app was easily integrated into the classroom activities. In contrast, the learners used the technology to support the communication and scaffolding of their own interests; for example, to verbally express or to visually represent interests and integrate this into their daily lives.

Discussion

Overall, the TCC approach trialled in EYBSP provided an in-depth and positive analysis into the delivery of professional learning and support to parents, educators and specialists in rural and remote regions to meet the needs of early years learners on the autism spectrum. A number of guiding principles that inform this approach were highlighted by the results of this exploratory research.

Limitations

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; and the monitoring of iPad and device use by students between home and school. 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. Other limitations included not considering the student perceptions in the findings of this exploratory study.

Future Directions

i) Implications for Future Research

There are several implications for future research, including research which trials a TCC approach:

- I. Longer term implementation within the same school environment for more than one school year
- II. With a wider range of age groups, personnel and school contexts (e.g., high school, childcare)
- III. Across a range of geographical contexts (e.g., metropolitan, rural, regional and remote)
- IV. with a whole school autism-friendly focus



In line with Halsey (2018), a TCC approach could provide further support to rural and remote policies that promote the needs of all stakeholders including parents, educator, professionals and learners on the autism spectrum in the following ways:

- I. Drawing together a national focus around education, training and support to better support all individuals in rural and remote Australia including those on the autism spectrum.
- II. Ensuring that all children including those on the autism spectrum in rural and remote locations start school with a strong foundation to education and learning.
- III. Supporting the needs of rural and remotely based educators who require additional support and professional development opportunities especially in relation to learners on the autism spectrum.
- IV. Support in an ongoing manner the needs of newly qualified/placed educators in rural and remote regions.
- V. The use of teleconsultation to support professional learning for educators in rural and remote regions.

ii) Implications for Future Practice - Key Recommendations

The TCC approach is useful for supporting teachers to address a range of different individualised needs, help them to advocate for students' needs, reduce feelings of isolation, and provide professional learning and advice on individualised and group intensive, ongoing, specific, tailored strategies that are contextualised for their situation and teaching needs. This builds teacher confidence to support the needs of all students in their context and gives them professional learning and a toolbox of skills and strategies that may help them meet the needs of future learners.

There are several key recommendations that can be derived from the findings of this project:

Face-to-face is an essential element of a TCC approach and needs to occur at a frequency that meets the needs of the contexts and stakeholders.

- It is imperative that adequate time is taken at the beginning of the TCC approach to identify and gather accurate information about the context and all key stakeholders' needs including the needs of the teacher, student and family and any specialist support or external agencies involved.
- It is important when implementing this approach that whole school professional learning opportunities, whole class as well as individualised strategies, are considered and may need to be implemented in order to help participants orchestrate learning and mobilise resources.



- The more challenging the needs of the context and learner, the more face-to-face may be necessary to support uptake of practices.
- Ongoing communication through more remote support is critical to sustain relationships and ensure ongoing feedback and review of practices can occur to ensure they continue to effectively meet the needs of all involved.
- The regularity of the TCC approach and the mode of delivery needs to be negotiated with relevant stakeholders to ensure it can effectively meet their needs and be manageable.
- The approach is a big and ongoing sustained commitment both on time and resources of staff with regular and ongoing collaboration needed in a variety of modes to ensure success.
- Staff see the value of committing this time if they can see how the practices can be applied to meet the needs of other learners.
- In recognition of the commitment involved in this approach, moving forward it would be beneficial for the professional learning that occurs through teleconsultation to be recognised as contributing towards continuing professional development hours for professional registration of teaching and professional staff.
- Virtual collaborative software needs to be simple and easy for participants to connect
 with and require minimal bandwidth and training to be used. In this project, the most
 success was with Zoom collaborative software which was the easiest and simplest for
 participants to use.
- Remote support needs to include a range of different delivery options including phone calls, email and virtual collaboration and be responsive to the needs of the participants.
- Internet capacity of the context and IT knowledge of participants also needs to be taken into consideration. In this project, each site was supplied with an iPad with its own 4G network sim card to ensure connectivity issues could be kept to a minimum.
- Important for dual case management the TCC team needs to have a delegated case manager and the educational site needs a delegated case manager through which all communication and consultation is filtered.



Guiding Principles of a TCC approach

Key elements or guiding principles that inform and support the delivery and focus a TCC approach should take in educational contexts are detailed in the following list and illustrated in the Figure.

- Relationship building with all stakeholders
- Shared goals with all stakeholders informed by multiple perspectives
- Equitable, consultative and collaborative partnerships with shared power
- Connections and ongoing reciprocal communication amongst all stakeholders
- Ongoing professional learning that is in-situ, not static but fluid and responsive to the needs of contexts, educators, families and learners
- Problem solving consultative approach to professional learning using a multi-tiered systems of support framework
- Multi- and inter-disciplinary approaches to TCC delivery
- Responsiveness to the needs of all stakeholders and context
- Individualised and tailored approaches to meet all stakeholders' needs (families, students, educators, school context)
- A feedback and review loop that is essential to constantly review and refine the approach, practices and strategies
- Ongoing, flexible and responsive delivery in a range of modes (face-to-face and remote)
- A focus on building understanding and professional learning in order to support positive advocacy of student needs.





