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Regional and Rural Teachers' Experiences with Two Models of Practice Supporting the Education of Students on the Autism Spectrum

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Abstract

The experiences of regional and rural teachers supporting students on the autism spectrum in their classrooms often differ from those of their metropolitan counterparts. Interventions designed for metropolitan settings may not work the same way in regional and rural classrooms, and teachers outside major centres may encounter challenges in accessing appropriate resources and professional development. Research focused on teaching students on the spectrum is largely conducted in metropolitan areas and does not address the contextual factors impacting regional and rural educators. Using data collected as part of a larger study, this paper examines the experiences of regional and rural teachers who were introduced to models of practice designed to support their decision making with respect to supporting students on the autism spectrum. Through interviews and survey responses, these teachers have described challenges and opportunities related to the unique and diverse settings in which they work. Their perceptions of the benefits of the models and accompanying professional support in these settings reinforce the need to embed inclusive support for students on the spectrum in foundational teaching practices that can be adapted to diverse classrooms.

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Introduction

Teachers in regional and rural areas can encounter challenges that differ from those experienced by metropolitan teachers (Kuhl, Pagliano, & Boon, 2015; White, 2015). In the Australian context, regional and rural areas are defined in terms of relative distance from urban centres and this can involve differences in the way teachers and students access resources and supports as well as differences in school and community dynamics (Kline, White, & Lock, 2013). It follows then, that distance from metropolitan areas may have a significant impact on the ways in which teachers support students on the autism spectrum in their classrooms. The unique characteristics of regional and rural locations may intersect with, and compound, the specific challenges experienced by students on the spectrum and their families. Additionally, regional and rural teachers may have different experiences than their metropolitan counterparts when it comes to developing specialist professional knowledge and accessing specialist support. Both teacher training and the design of educational supports for students on the spectrum generally occur within metropolitan centres. There is currently very little research to inform the practice of teachers supporting these students in regional and rural areas.

This paper examines the experiences and perceptions of mainstream, early and middle years, regional and rural teachers trialling two models of practice designed to help them in supporting students on the autism spectrum in their classrooms. The data discussed here were collected as part of a larger research project investigating teachers' use of these models in schools across both metropolitan and non-metropolitan areas of Queensland, New South Wales, and Victoria (see Beamish et al., 2020). Both the Early Years Model of Practice (EY-MoP; for teachers of Prep and Year 1) and Middle Years Model of Practice (MY-MoP; for teachers of Years 7 and 8) were designed to provide educators with information and guidance on practices to underpin inclusive classrooms. Focusing on this group of teachers has facilitated the exploration of challenges and concerns specific to teachers outside metropolitan areas. Looking at the accounts of regional and rural participants in isolation is important not only to better understand the unique experiences of these teachers when it comes to supporting students on the spectrum, but also to ensure that the models of practice are relevant to the concerns of teachers in these contexts. The findings highlight the importance of supporting teachers to develop foundational practices that have the flexibility to be of use in diverse contexts and responsive to a range of student needs.

Physical distance has often been cited as a challenge in regional and rural education (Jenkins, Reitano, & Taylor, 2011; Halsey, 2018). Not only can this impact students' access to the classroom, but also teachers' ability to access professional development opportunities. Travel from regional and rural areas may involve larger commitments in terms of time and money, and there may not be relief staff available locally. Frequent staff changes and limited access to specialist support may mean that regional and rural teachers do not have the ability to readily draw on the experience or expertise of colleagues (Kuhl et al., 2015). Additionally, teachers who remain in rural communities for a length of time may find themselves quickly taking on "out-of-field" teaching, multiple roles, or moving into leadership positions without necessarily receiving relevant training (Hardwick-Franco, 2018). This mismatch between teacher preparedness and professional expectations has been linked to low self-efficacy (Sharplin, 2014) and can create what Kuhl et al. (2015) refer to as "a sink-or-swim environment for both the teachers and the students" (p. 704). Furnishing teachers with strategies to support students on the spectrum that do not translate well to diverse classroom contexts may exacerbate this problem.

Most research addressing the support of students on the spectrum has been conducted in metropolitan areas, or, when including regional and rural locations, the data pertaining to these contexts has been diluted by larger numbers of metropolitan participants (Kuhl et al., 2015). A focus on regional and rural experiences can furnish important insights into the relevance of research to classrooms outside metropolitan areas including information about the practicality of supported

interventions in diverse circumstances and their effect on the knowledge and confidence of the teachers who use them.

The approach taken here is in alignment with the recommendation included in a recent review of regional, rural and remote education, that consideration for the characteristics of non-metropolitan contexts should inform teachers' pre-service education and ongoing professional support (Halsey, 2018; Department of Education and Training, 2018). Indeed, the need for training and ongoing support to further prepare teachers for work in rural contexts is widely acknowledged as an important element in addressing the problems of teacher shortages and high teacher turnover (Halsey, 2018; Lock, 2008; Mueller & Brewer, 2013; White, 2015). Further development of teachers' knowledge and skills in supporting students on the spectrum in these contexts is an essential part of this preparation. The Models of Practice discussed here, were intended to enhance foundational knowledge and skills to help teachers in supporting students on the spectrum, may have particular applicability for regional and rural teachers provided they are suitable and relevant in this context.

Background – Context for the Present Study

The research presented here is part of a larger, multi-stage project funded by The Cooperative Research Centre for Living with Autism (Autism CRC). The over-arching project took an iterative, design-based research approach to generate, validate, and field-test two models of practice for use in Australian early years and middle years classrooms. Each model included a set of research-informed, foundational practices to support teachers in their decision making when planning for, and delivering learning experiences to, students on the spectrum. Following a generation stage, practices in both models were validated by autism and educational experts and practicing teachers throughout Australia. Practices were then organised into three areas within a matrix framework, with each practice being accompanied by an informative 2-page brief to guide implementation.

The Early Years Model of Practice (EY-MoP; see Table 1) used the theme of *Belonging, Being, and Becoming* in the *Australian Early Years Learning Framework* (EYLF; DEEWR, 2009) to organise its 29 validated practices. The 10 *Belonging* practices relate to creating an inclusive and structured classroom environment; the 9 *Being* practices relate to developing student personal and social capabilities; and the 10 *Becoming* practices relate to assessing learning and teaching in key curriculum areas.

Table 1. EY-MoP Abbreviated Practices (n=29)

<i>Belonging</i>	<i>Being</i>	<i>Becoming</i>
Interact with every student	Engage with students	Assess student knowledge
Provide feedback on learning and behaviour	Model positive interactions	Provide systematic instruction
Actively supervise class	Teach friendship skills	Monitor student learning
Provide an accessible classroom	Model emotional literacy	Assess student learning outcomes
Provide an organised classroom	Teach self-regulation	Teach self-help skills
Give clear directions	Teach social problem solving	Teach communication skills
Reinforce classroom rules	Use peer-mediated instruction	Teach speaking and listening skills
Consistently use routines	Conduct an antecedent-behaviour-consequence (ABC) analysis	Teach reading
Consistently use schedules	Modify environment to reduce behaviour	Teach writing
Prepare students for transitions		Teach numeracy

By comparison, the Middle Years Model of Practice (MY-MoP; see Table 2) used the autism-specific curriculum elements of *Rigour*, *Relevance*, and *Relationships* (Test, Smith, & Carter, 2014) to organise its 36 validated practices. The 13 *Rigour* practices relate to promoting student engagement in learning activities; the 12 *Relevance* practices relate to making the curriculum pertinent by adjusting teaching, learning, and assessment tasks and building on individual student’s strengths and interests; and the 11 *Relationships* practices relate to strengthening positive relations with peers, educators, family members, and others through the provision of behavioural and social emotional supports.

Table 2. MY-MoP Abbreviated Practices (n=36)

<i>Rigour</i>	<i>Relevance</i>	<i>Relationships</i>
Instructional sequences	Teaching test preparation skills	Home–school communication
Active supervision	Modifications to intensity, methods or curriculum	Parent communication – homework
Supporting receptive language	Test adjustments	Home base
Task analysis	Oral assessment adjustments and alternatives	Incidental social coaching and safety
Visual supports	Exemplars	Classroom rules
Organised classroom	Technology-aided instruction	Flexible grouping strategies
Student organisational supports	Adjustments for projects and assignments	Inclusive language and incidental social coaching
Prompting	Authentic assessment	School belonging
Supporting expressive language	Choice making	Reinforcing appropriate behaviour
Visual study guidelines, planners, and timelines	Special interests	Responding to inappropriate behaviour
Visual self-management tools	Self-monitoring	Peer interaction
Visual instructional supports	Sensory needs	
Routines and visual schedules		

Subsequently, both models were field-tested by classroom teachers at interested primary and secondary schools in metropolitan, regional, and rural locations across Queensland, New South Wales, and Victoria. We focus in this paper on what early years and middle years teachers at regional and rural mainstream schools reported as their perceptions of the relevant practice model (either EY-MoP or MY-MoP) and their experiences when using it. To gain an understanding of any future supports needed in utilising the respective practice models, teachers were assigned differentiated levels of professional support; either (a) face-to-face support at the school, (b) online video conference support, or over the phone, or (c) no additional support; only access to the project website and hyperlinked pdf documents of the models and practice briefs. This support was provided by autism-specific specialists and included training and technical assistance. Decision making around the provision of support was influenced, in part, by geographical location, with primary and secondary schools in regional and rural areas purposively clustered and assigned to one of the three conditions. Secondary schools nominated autism instructional leaders (AILs) to receive assigned professional support with the expectation that they would then provide face-to-face support to teacher participants at their setting. Ethical clearance for this project was obtained from the Griffith University Human Research Ethics Committee. As the research was conducted in schools, clearance was also obtained from the Queensland, New South Wales, and Victorian Government education systems as well as from relevant Catholic dioceses.

Method

Settings

Altogether, 15 schools outside metropolitan areas were recruited to field-test the practice models. Six regional and three rural primary schools were involved in the EY-MoP component of study whereas four regional and two rural schools took part in the MY-MoP component. Table 3 provides further information about participating schools. Each school had between one and three participating teachers.

Table 3. Participating Regional and Rural School Characteristics

	State			Sector			Location	
	Qld	NSW	Vic	Gov	Cath	Ind	Regional	Rural
Early Years Schools (n=9)	2	6	1	5	4	-	6	3
Middle Years Schools (n=6)	3	2	1	5	-	1	4	2

Participants

Early Years: Thirteen teachers field-tested the EY-MoP in their classroom. Five of these were Prep or Kindergarten teachers, four taught Year 1, and four taught composite classes consisting of Prep to Year 1 or Prep to Year 2. Grouped by age, more than a third of the teachers were under 30 years; however, participants were evenly distributed with respect to years of teaching experience. Participant characteristics are presented in Table 4 below.

Middle Years: Seventeen teachers field-tested the MY-MoP. These included 10 Year 7 or 8 teachers and seven AILs who were involved in disseminating information about the MY-MoP and providing professional support to colleagues. As all the AILs were either teaching mainstream Year7/8 classes or working as special education teachers within mainstream schools, for the purposes of this report all middle years participants will be referred to as “teachers.” The age of participating teachers in the middle years component was similar to that of the early years teachers (see Table 4). However, in terms of experience, they clustered around 1-3 years of teaching experience and more than 16 years.

Table 4. Key Characteristics of participating teachers (n=30)

	Ages (years)						Teaching experience (years)			
	<30	30-39	40-49	50-59	>60	NA	1-3	4-9	10-15	16+
Early Years (n=13)	5	2	3	2	1		3	4	2	4
Middle Years (n=17)	6	1	4	4	1	1	6	4	2	5

Data Collection

Both early years and middle years teachers were asked to complete similar online surveys and interviews conducted over the phone; however, data collection differed slightly between the two participating groups. Prior to model usage, Survey 1 was used to collect demographic data from all teachers, together with self-reported data related to knowledge, confidence, and self-efficacy in working with students on the spectrum. Knowledge and confidence were gauged using Likert-type scales while self-efficacy was measured using the Teachers’ Sense of Efficacy Scale (Tschannen-Moran & Hoy, 2001). Interview 1 followed and was used to collect details about classroom settings from teachers and to record their initial perceptions of the model. Towards the end of the 8-week field-testing period, Interview 2 was conducted with early years teachers. This interview was used to collect perceptions of the EY-MoP as a teaching resource. Finally, a second survey collected data from each group of teachers about their use of the model and any perceived changes in knowledge, confidence, and efficacy over the 8 weeks. Middle years

teachers did not complete a second interview but were able to provide comments about their experiences with the MY-MoP in Survey 2. Fewer than half the regional and rural teachers who completed Survey 1 went on to complete Survey 2 and not all those who undertook the survey went on to participate in interviews. Teachers who provided explanations for discontinuing their participation in the study cited time constraints related to the limited timeframe of the study and increased workload around the end of the school year. Table 5 presents the numbers of teachers participating in each aspect of data collection.

Table 5. Number of Participating Teachers by Aspects of Data Collection

	Survey 1	Survey 2	Interview 1	Interview 2
Early years (n=13)	13	6	10	6
Middle years (n=17)	17	7	12	NA

Data Analysis

Qualitative data comprising anonymised interview transcripts and responses to open-ended survey questions were thematically analysed using QSR International’s NVivo 11 (Brooks, McCluskey, Turley, & King, 2015). This systematic approach to generating codes and subsequently themes from the data resulted in the development of three domain summaries namely factors influencing support for students on the spectrum and their teachers, perceptions of the Models of Practice and professional support, and perceived impacts of practice model use. Quantitative survey data comprising teacher ratings of knowledge, confidence, and sense of efficacy were analysed using descriptive statistics.

Findings and Discussion

Examining the data from regional and rural participants independently has highlighted some of the unique challenges involved in teaching students on the spectrum outside metropolitan areas. Although the number of participants in this separate analysis was limited, individual teacher accounts demonstrate the importance of giving careful consideration to context when selecting appropriate supports. Comments from these teachers point both to the ways in which these contexts present challenges and opportunities that differ from those in metropolitan schools, and to the ways these contexts influence teachers’ support systems and uptake of professional development materials. Both interview and survey responses of these regional and rural teachers have been analysed with respect to (1) factors influencing support for students on the spectrum in non-metropolitan areas, (2) teachers’ perceptions of the models of practice, (3) factors influencing teachers’ access to professional and collegial support, (4) teachers’ perceptions of the support they received as part of this project, and (5) changes to teachers’ perceived levels of knowledge and confidence in supporting learners on the spectrum over the course of the study.

Factors influencing support for students on the spectrum

Early Years: There was considerable diversity among regional and rural early years teachers with respect to the ways in which this context impacted the support needs of students on the spectrum and the dynamics of their classrooms. As a number of researchers have noted (Alloway & Dailey-Trim, 2009; Hazel & McCallum, 2016) there is a great variety in regional and rural settings with each having unique characteristics. However, common to a number of participants in this study was the experience of teaching within a small community, in a small school, or with small class sizes. Among the consequences of having small numbers in the school and community are differences in the social dynamics between students and in the wider community. Several teachers reported small class numbers having an impact on the ways in which they were able to support social communication differences in their students on the spectrum. Some teachers noted that, with a limited number of students, there were also limited opportunities for redirecting unconstructive behaviour. “There’s

actually quite a lot of issues when you've only got eight in your class..." one teacher observed, "When you've got 30, you're like: 'Yeah, just... Oh, you're fighting with that kid, okay, so get a new one'." Another teacher explained:

there's only two boys, so [the student on the spectrum has] always been quite fixated with the other boy... this other little boy wanted a break - wanted to sit next to someone else - and that was really hard to get this child to understand...

These social challenges can impact the implementation of evidence-based intervention strategies such as peer modelling, or peer-mediated instruction. While research has shown these strategies can benefit all students involved (Travers & Carter, 2021), very small class sizes potentially place one or two students under greater pressure to participate than would be experienced by their metropolitan counterparts. This was illustrated by one teacher's description of sibling dynamics in their classroom:

... peer modelling can be quite tricky. Particularly when the only... Like, you go, that particular student's really great at it, except I really don't want to put it back on his brother. The one that's really good in class is his brother, and I thought, no ... Their only time away from each other's at school.

Small schools and communities were, however, also cited as positive influences on teachers' ability to provide support to students on the spectrum. Several teachers noted that, with diverse, composite classes, they were no strangers to differentiating or individualising curriculum content. Teachers also related ways in which their familiarity with families in the community provided them with background information that could inform their practice. This is supported by research which has shown that partnerships with family and community are particularly valuable to non-metropolitan educators (Guenther, Halsey, & Osborne, 2015). As one teacher remarked:

you really do know their family backgrounds and things like that too, and you're really conscious of children that you know are having a hard time. And, like, in bigger schools like that, you mightn't be privy to stuff like that, but in little schools you are very aware of it. Like I've got a little boy in my kindergarten that's, you know, from a broken family and everything, and I know the sorts of things that he's been having to go through, and... I've sort of got that understanding of what he's sort of been through and everything ... that sort of helps the staff.

Another teacher found awareness of some of the challenges of rural living helped her to understand behaviour in the classroom. "They live way out on a dirt road on the farm," she said of one student's family, "and he's got to get up very early, and he's got all that travel time, and, yes, so it's very big weeks for him." Knowledge of the community also helped teachers in preparing for new students transitioning to school and being familiar with their support needs. As one teacher noted, "... sometimes the transition is quite good... going from preschool to school in a small community, because they already know the kids... whereas in a larger school I could imagine that being quite different."

The influence of regional or rural contexts on the support needs of individual students creates unique situations in which some evidence-based practices may not be helpful or feasible. However, teachers in these contexts appear to be particularly well placed to make decisions about their students' needs that take into account their diverse family and community backgrounds. These teachers' accounts suggest that for supports to be viable in regional or rural classrooms they need to be flexible and adaptable to fit each unique setting.

Middle Years: The middle years setting in regional and rural areas differed from the early years in some important respects. As secondary school teachers, participants' classes were generally subject specific. One teacher noted that this involved a different relationship with

students than that in primary settings where teachers are with the same class all day. *“That’s the shame of just having them just for maths,”* they said, *“... a couple of years ago I had them for everything, and you can really get to know everything.”* For teachers of specialist or elective subjects, getting to know students on the spectrum well enough to understand their individual needs is even more difficult, and there are obvious challenges to implementing strategies consistently (Costley, Keane, Clark, & Lane, 2012). One such teacher noted: *“we only see them two periods a week. It makes it a bit trickier, to try and implement that independent learning if they are not seeing it across the board.”*

There was acknowledgement from others that the secondary school environment could be particularly challenging for students on the spectrum for a number of reasons. *“I suppose high school can be quite chaotic,”* a teacher observed, *“... you get here from primary school and you’ve had the one teacher for all your classes and then it flips over to a different teacher for every class...”* Another teacher noted that sexuality and personal hygiene have particular relevance for students in this age group. Middle years teachers may also be more concerned than early years teachers with preparing students for post-secondary life, which, for students in regional and rural areas, may involve options and decisions that differ from those available to their metropolitan counterparts (Alloway & Dalley-Trim, 2009; O’Shea, Southgate, Jardine, & Delahunty, 2019). As one teacher put it, *“we do know that it’s quite a few of these students that after school there’s not going to be much for them in a quiet community.”*

Like the early years teachers, a number of middle years teachers talked about working in small schools and the challenges of adapting the curriculum for diverse learners. This could include teaching secondary subjects over multiple year levels. *“We are all multi age...”* said one teacher, *“Most of our curriculum’s taught on what we call an A/B year basis. So, they’ll do year three, five, seven curriculum one year and then four, eight, ten the next year.”* Another teacher explained, *“My year seven class is integrated at the moment with eights and nines... it’s a project-based learning class.”* The diversity within some middle years classrooms was viewed as an additional challenge for some: *“I’ve got year eight students. I have got year seven students in the same room. Their ability levels vary. I don’t get enough time to plan for all of them.”* Even for teachers who were confident about supporting a student on the spectrum, catering for diversity within the classroom was viewed as problematic:

What I struggle with is, catering for their needs in a whole class situation... It’s not knowing what he needs - I can give that to him specifically - but how do I give that to him whilst catering for the other ten I’ve got in that group?

Perceptions of the models of practice

As outlined above, the models of practice were designed to provide educators with guidance in implementing foundational teaching practices to support their students on the spectrum. To further inform this design, teachers were asked to comment on the models. The unique influence of place on the experiences of teachers in regional and rural areas make these teachers’ perceptions particularly relevant in gauging the usefulness of the models not only in non-metropolitan contexts, but in supporting teachers with diverse classrooms more generally.

Early Years: All of the early years teachers who completed the first interview were asked their initial impressions of the EY-MoP, and all reported either that the model itself was in some way familiar to them, or that they had some familiarity with the practices it outlined. For some, the practices just seemed to make sense. One teacher, for example, said, *“I think they’re all pretty practical, down-to-earth, common sense things really.”* *“I like it... I think it encompasses what, you know, good teaching practices should be,”* another teacher observed, *“I’m a beginning teacher mentor, and this is sort of their talk... it seems to fit nicely with the training that they’re receiving, and the philosophies that they’re working towards.”* Other teachers noticed similarities to the Early Years Learning Framework. *“I think it’s very clear,”*

one remarked, “I think because I have knowledge of early learning centres, that that is sort of seen as their framework. Yeah, like the Early Learning framework, sort of...”

In Survey 2, teachers were asked which of the EY-MoP practices they had been focusing on during the field-testing period. Seven practices were selected by two or more teachers. These practices were:

(Belonging)	(Being)	(Becoming)
Reinforce classroom rules	Teach self-regulation	Monitor student learning
Consistently use routines		Teach self-help skill
Consistently use schedules		
Prepare students for transitions		

This may provide an indication of areas in which teachers perceived a need, or practices they felt would be a particularly suitable fit for their classrooms.

While teachers focused more on *Belonging* practices, teachers reported it being beneficial to have a selection of strategies to choose from. Having access to a range of practices allowed teachers to select those they felt would meet the individual needs of their students. Kasari and Smith (2013) suggest this type of flexible, modular approach to selecting evidence-based practices according to their suitability to specific circumstances may be one “whose sum is far greater than the parts” (p. 264). Indeed, some teachers signalled that they would continue to use the model as they anticipated practices that they didn’t focus on would nevertheless be useful in the future. As one teacher put it, “although... with this student, my focus has been self-regulation and transitions, next year, if I was to have a student on the spectrum, their goals might be completely different.” The model was seen as a useful collection of resources by some teachers who talked about consulting the model as necessary: “it has been really helpful, even trying to fit it in with everything else in term four... to have more understanding and more resources to refer back to.”

A couple of teachers remarked that they found the practices to be useful in supporting all their students and not simply those on the spectrum. “Those routines help all preps,” one teacher related, “especially, you know, my boy with the autism, but, yeah, it sort of benefitted the whole class.” As well this inclusive use of the practices with a class as a whole, another teacher planned to use the model in the future whether or not she had students on the spectrum in her class. “Regardless of any student in my class,” she said, “I’m going to be able to take these forwards into the new year and... Implement them from the start...”

Middle Years: In common with the early years teachers, the middle years teachers initially found the MY-MoP in some ways familiar. While a few noted that the organisers (Rigour, Relevance, and Relationships) were novel, many of the practices themselves were not new. One teacher remarked, “there was terminology for practices that we do that we didn’t know,” and another said, “Indirectly, I’m familiar with a lot of it... just not quite in the structure.” Some teachers reported that there was some alignment with their current practice. “I suppose that some of the stuff we were doing,” said one teacher, “That was my initial thought... ‘Okay, we’re not completely in the dark.’”

Also emerging from middle years teachers’ initial thoughts about the project was the idea that viable supports for students on the spectrum would not only provide teachers with a selection of flexible strategies to try, but also facilitate an approach that could be used consistently with the whole class or school wide. A respondent in Survey 1 summed up what they hoped the model would provide: “Access to a range of strategies and best practice that will benefit not only students on the Autism spectrum, but all students.”

As with the early years teachers, the middle years teachers were questioned in Survey 2 about which practices within the MY-MoP they focussed on during the project. Seven practices were selected by two or more teachers. Practices were: Instructional sequences, Task analysis, Visual supports, Organised classroom, and Student organisational supports (*Rigour*); Sensory needs (*Relevance*); and Parent communication - homework, Incidental social coaching and safety, and Classroom rules (*Relationships*).

The Middle Year teachers, like those in the early years, focussed more on practices aimed at providing structure to the classroom and learning materials. However, like the early years teachers, some mentioned the flexibility of having a range of individual strategies available. Some comments from Survey 2 exemplify this: “A fantastic toolbox of ideas to use when you need it most”; “it can offer teachers alternative ideas and reminders of practice if they are having difficulty with students.” The model’s suitability for use in providing an inclusive, whole-class approach was also discussed: “We used [the practices] for discussion or as a toolbox of ideas or for further research for what we needed to address for the class as a whole.” Additionally, one teacher noted that the adaptability of this resource made it particularly suitable to the secondary school environment where implementation across subject areas might be challenging. “It was nice to be able to read up on differentiation,” they said, “and classroom techniques that are easy to adopt to any KLA especially in secondary of which there are pretty much none available elsewhere.”

Factors influencing support for teachers

Early Years: During the first interview, teachers were asked about ways in which they had utilised professional development and collegial support to develop their knowledge and skills with respect to students on the spectrum. Being outside metropolitan areas, or in small communities, impacted both the ways in which professional development or support could be accessed and the nature of collegial relationships. Some teachers reported small school size affecting the ways in which they interacted with colleagues. While teachers in some regional areas reported accessing a range of training opportunities, consistent with difficulties noted in other research (e.g., Downes & Roberts, 2018, Roberts, 2015), distance from metropolitan areas and access to a reliable internet connection were cited as impacting access to relevant professional development and specialist support services.

The closeness and familiarity with colleagues in small school settings was described by some teachers as facilitating support of students on the spectrum. “The fact that we’re a small school,” meant for one teacher that, “... we know each other quite well, and we know our kids.” Another teacher remarked:

... we’ve always had small staff here, so you do tend to talk a lot. Like it might not be an official meeting, but we’re forever in the staffroom discussing, you know, different children and how, you know, things might work for them, or how you can help them... so it’s a lot of collegial talk about it in small schools like this...

At the same time, familiarity was not always viewed positively. One teacher joked about over familiarity in small communities, “Sometimes you can be too close... Sometimes you think, ‘Oh, that’s so-and-so’s relative’ or whatever...” and another commented on the trouble with having only a small number of colleagues to draw upon, “I’m in a very small school. So, my colleagues have no clue either.”

The relatively rapid turnover of teachers in some regional and rural areas (see Downes & Roberts, 2018; Sullivan, McConney, & Perry, 2018) was also described as being both a barrier to obtaining collegial support and a potential advantage. Frequent staffing changes made it difficult for teachers to establish knowledgeable professional support networks. “The other class – the other primary class – has had three different teachers this year,” a teacher noted, “So, that person clearly has not been the best person to speak with, and the other person in the school is the principal.”

Another teacher, however, observed that staffing changes brought new learning opportunities. *“I’ve just had a lot of other teachers, like a lot of change of staff over the years,”* she said, *“you just pick up a lot of different things from them.”*

Consistent with other research on regional and rural teacher training (Broadley, 2010; Maher & Prescott, 2017), accessing professional development opportunities was described as a challenge by a number of the teachers. *“Finding any professional development is actually quite tricky...”* said one, *“Yeah, you have to travel to Broken Hill... or drive somewhere else which is even further.”* Technology facilitated professional learning for a number of the respondents. One noted: *“if it isn’t working in class or he has issues, I’m going to go and google it and find information somewhere.”* Teachers also reported having access to allied health professionals via online video technologies. One teacher explained, *“we have had children do a combined OT/speech session... It was mainly trying to focus on play via telecare... that’s what you can do. Yeah, thinking outside the box.”* For others though, technological solutions were unreliable: *“We did try to set up, via video links and chatrooms and things, but our internet out here is very unpredictable, so it often fails.”*

Middle Years: Middle years teachers who participated in Interview 1 largely reported positive experiences with both receiving and providing collegial support. Working with colleagues was viewed as an effective way to build the knowledge and skills needed to support students on the spectrum. *“It’s super effective,”* observed one teacher, *“You need to go and see other teachers work. You can’t just do it on your own.”* Some provided examples of the breadth of collegial support they were able to draw upon:

I have mentors, I have my heads of departments, I keep running ideas past. My colleagues in the staffroom... I’ll actually talk to them and go, “What would you do in this situation?”... They have been really helpful in terms of learning new ways to help the kids get back on track and move forward.

The sentiment expressed by many of the teachers was summed up by one saying, *“At the end of the day, it’s important that we learn from each other... I think, unless you have those collegial conversations, you’re doing a disadvantage to yourself and to your students.”*

Like the early years teachers, however, some middle years teachers in smaller schools and schools with a rapid turn-over of teaching staff reported these contextual factors having an effect on the support available through collegial interactions. As one put it, *“access to some resources would be great or access to other people. Obviously, we’re real remote to other people that work with teenagers with ASD.”* Another noted that there were *“limited teachers and limited teachers with experience out here in the bush.”* For some experienced teachers, this may lead to accessing peer support outside the school or local area. *“When it comes to senior teachers there’s only about four or five of us out here,”* the teacher continued, *“We do sit down and have conversations, but I still keep in regular contact with staff from my previous school.”*

With respect to other sources of professional development, regional and rural middle years teachers reported utilising online courses, resources and webinars. Eight teachers responded to a Survey 1 question about the professional development they most valued, and, of these, seven noted information or course content available online. While those who participated in the interview focussed more on collegial support and personal or professional experience as the way in which they had gained knowledge and skills in supporting students on the spectrum, two interviewees mentioned taking online courses. As one described it, the online learning experience also provided interactive, collegial support: *“a lot of people were participating, teachers and parents. We had lots of discussions we shared. We did some questions and answers. It was pretty good.”* In this way, the availability of online professional development could facilitate involvement in communities of practice for teachers who might otherwise be isolated from collegial networks (Harper-Hill et al., 2020; Johnsson, Lincoln, Bundy, & Bulkeley, 2020).

Perceptions of professional support received

Early Years: Five of the six early years teachers who participated in Interview 2 and Survey 2 received face-to-face (n=2) or online (n=3) professional support to help them utilise the EY-MoP. All five indicated in Survey 2 that face-to-face contact for professional support would be desirable. The sixth teacher remarked that her experience of working with the model would have been improved with professional support either face-to-face or online. While the number of participants in this study makes it difficult to draw conclusions about how different levels of support impacted teacher experiences, this is consistent with findings from the larger project which suggested that additional professional support was helpful in facilitating use of the EY-MoP (Beamish et al., 2021). Those who received support related their experiences in positive terms. *“It was good to just talk to someone who had experience,”* said one teacher, *“... and even just saying, ‘Oh, why don't you try this?’ and... that's good, especially for someone like me who this is only my second year out.”* Some teachers said that professional support was useful in guiding their initial approach to the practices and preventing them from being overwhelmed: *“I think, before the coaching, we were a little bit lost.”*

Teachers did report, nevertheless, barriers to accessing support in the way they would have liked. Making time for the sessions was a problem for some, particularly during the latter part of the school year. A number of teachers suggested having shorter sessions over a longer period of time; it was difficult *“just trying to find that whole hour... we can't do it during our teaching time.”* Difficulties stemming from inadequate or unreliable internet connections (as noted in Park, 2017) were also reported. Video conferencing was not feasible for all teachers: *“Probably would have had more Skype if it worked 100% of the time, but unfortunately, we had a few sessions where Skype wasn't working, so we ended up having... a few more phone conversations rather than Skype conversations.”* It was noted that technical problems like these could prevent the exchange visual information such as sharing examples of resources.

Middle Years: Professional support was delivered differently to middle years teachers with ALLs receiving the MY-MoP and external support (if allocated) and then providing support in turn to the other participating teachers in that school. Of the seven teachers who completed Survey 2, six received some sort of professional support with only one ALL working from the MY-MoP document alone. This teacher remarked upon the desirability of professional support. *“Felt a little at sea with some things especially in the beginning,”* she said, *“an expert would have been helpful to give a big picture or summary of the practices and briefs and how they work together. It was hit and miss to start with...”* All the other teachers indicated that they regarded the support they received positively. Lack of time, however, was repeatedly cited as an issue in accessing support. Comments included: *“More hours. I was concerned I would be cut loose without enough knowledge of how to sustain the practices,”* and, *“Not enough expert support time to educate me properly. The coach was great but sooo time restricted!”*

Perceived Impact on teachers' knowledge and confidence

in Surveys 1 and 2, both early and middle years teachers were questioned about their perceived knowledge and confidence in teaching students on the spectrum. Early years teachers were also asked about changes to their knowledge and confidence in Interview 2. Most participants in both groups of teachers reported that their knowledge and confidence improved while field-testing the models of practice.

Early Years: Analysis of the way in which teachers used the EY-MoP in the larger project revealed that some actively implemented the practices, some did not use the EY-MoP at all, and some were superficial users (i.e., using the model to reflect on their current practice or

giving some consideration to using it in the future: see Beamish et al., 2021). Five of the six regional and rural early years teachers who completed the second interview and survey reported being actively engaged in using the EY-MoP and one teacher was classified as using the EY-MoP in a superficial way. It is worth noting that this teacher was the one who did not receive additional professional support. In Interview 2, all regional and rural teachers who were active users reported that their engagement with the model had enhanced their knowledge and feelings of capability while the teacher who engaged in superficial use of the model reported no change. In Survey 2, four teachers attributed their perceived gains in knowledge and confidence to their participation in the project. Figures 1 and 2 below illustrate the changes in teachers perceived levels of knowledge and confidence between Surveys 1 and 2.

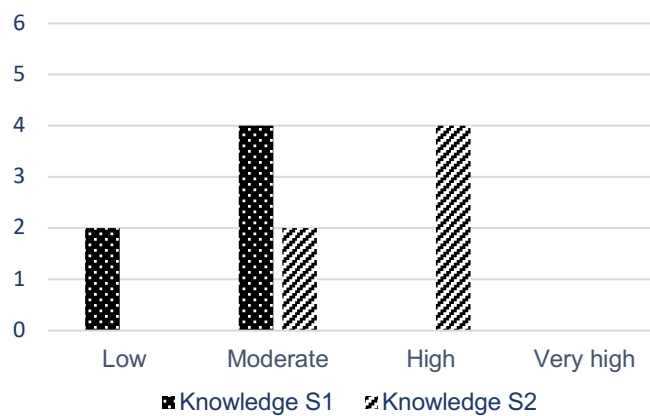


Figure 1. Early years teachers' levels of knowledge reported in Surveys 1 and 2.

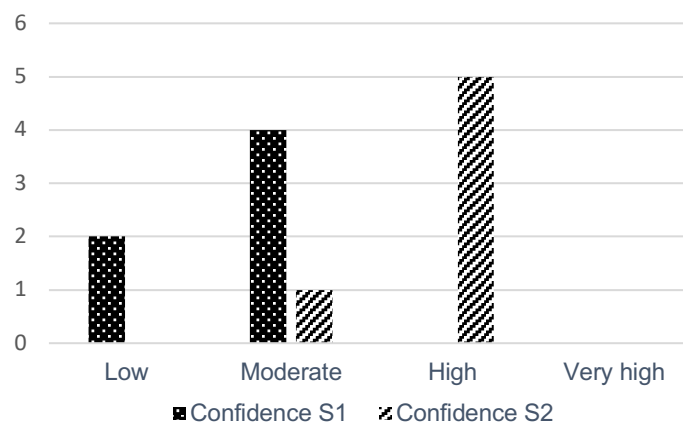


Figure 2. Early years teachers' levels of confidence reported in Surveys 1 and 2.

Some examples of the comments teachers made when discussing their knowledge and confidence in Interview 2 were: *“this has sort of given another avenue, another resource, another lot of knowledge that I can certainly now use,”* and, *“I definitely feel more capable to have more of these students and teach them in the future.”*

Middle Years: Figures 3 and 4 show perceived changes in teachers’ knowledge and confidence between Surveys 1 and 2. Of the seven teachers who completed Survey 2, five reported that the changes in their knowledge were due to their involvement with the project, and six indicated that the changes to their confidence levels were due to their participation in this research. In contrast to the early years group, the AIL who did not receive additional professional support nevertheless reported increases in both knowledge and confidence.

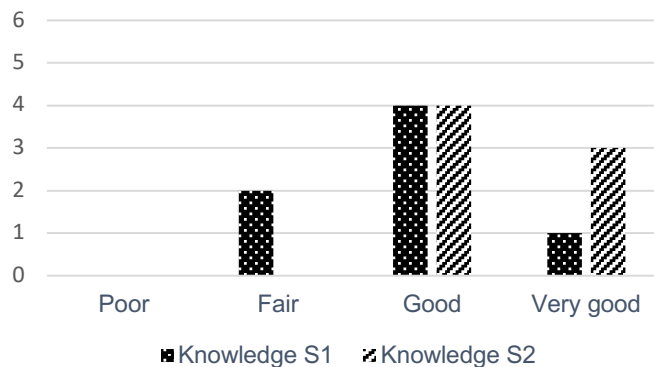


Figure 3. Middle years teachers' levels of knowledge reported in Surveys 1 and 2.

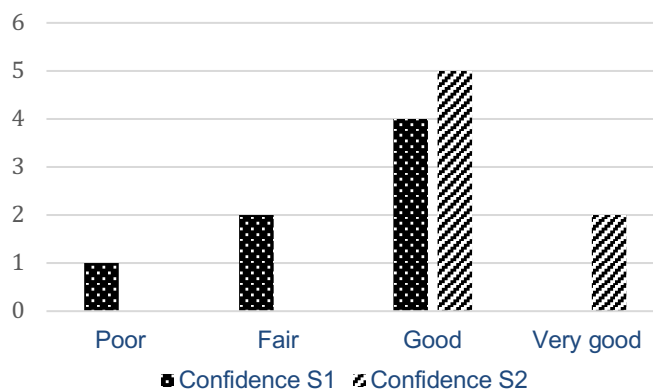


Figure 4. Middle years teachers' levels of confidence reported in Surveys 1 and 2.

Conclusion

Examining the use of the models of practice in regional and rural locations has served to demonstrate that these foundational practices may be helpful and feasible for supporting students on the spectrum in diverse contexts. There is an established need for preparatory and ongoing teacher education for regional and rural areas (Mueller & Brewer, 2013; White & Kline 2012). Regional and rural teachers experience challenges that their metropolitan counterparts do not. As outlined above, the places in which these teachers work, and the communities in which they live, impact the support needs of their students on the spectrum and determine the suitability of the strategies they may choose to implement. Additionally, these teachers may have different opportunities and experiences than metropolitan teachers with respect to engaging with colleagues or accessing autism-specific professional development. Although this study was limited by a small sample size, high dropout rate, and lack of follow-up interview data with middle years teachers, the findings presented here are illustrative of the complex ways in which place can shape inclusive educational practices. The relevance of these findings lies not so much in their generalisability to other settings, but in the applicability of the models to diverse and idiosyncratic contexts. Additional research exploring the use of such models of practice in creating inclusive classrooms in regional and rural areas would be, however, of benefit in further identifying and addressing the needs of teachers and students.

The EY-MoP and the MY-MoP were shown to have the flexibility necessary to provide teachers with strategies to fit their classrooms. Each model provided a collection of foundational practices which most teachers believed increased their knowledge and feelings of capability when it came to supporting students on the spectrum. At the same time, teachers were empowered to make decisions about which practices would be relevant and useful in their unique circumstances. Teachers reported that the professional support they received was an important factor in guiding

their use of the models. It would, therefore, be pertinent to further research teacher access to, and engagement with, autism-specific professional development in regional and rural areas in order to inform the development of high-impact professional learning opportunities suitable for this cohort. Addressing the identified barriers to accessing professional support could further enhance the usefulness of these models in regional and rural contexts. In summary, the EY-MoP and MY-MoP provide access to foundational practices in an accessible and flexible manner that addresses some of the barriers to autism-specific professional learning for teachers working in regional and remote areas.

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