Models of Practice

To support the transition of students on the autism spectrum into and between Early and Middle Years classrooms

EXECUTIVE SUMMARY

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Project 2.037 Models of Practice

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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.

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Executive Summary

1.1. Purpose of the study

One of the major challenges facing education sectors in Australia today is how to deliver educational programs in a way that supports the learning of students on the autism spectrum.

Many students on the autism spectrum experience significant challenges in education environments that can be barriers to accessing the curriculum. These challenges are often the result of the unique learning styles of students on the autism spectrum and schools failure to provide appropriate accommodations and adjustments for these students .The results of the Australian Autism Cooperative Research Centre Educational Needs Analysis Survey (Saggers et al., 2016) indicated that teacher knowledge about autism is limited, they are unsure how to best support students on the autism spectrum and that there is a lack of suitable resources and relevant professional development.

The aim of the project was to develop, trial and evaluate a Model of Practice (MoP) containing accessible and relevant resources and professional development material for Early Years (EY) and Middle Years (MY) mainstream educators of students on the autism spectrum in Australian schools.

The results of the evaluation of the Early and Middle Years MoP indicated that teachers found the resources provide useful strategies and that the strategies were well organised and easy to read. Ultimately, the findings showed that using the MoP increased teacher confidence in teaching students on the autism spectrum and their perceived knowledge of autism and effective classroom strategies.

The findings of this study indicate that teachers of mainstream classes benefit from accessible, relevant, evidence-based information and resources.

1.2. Study description

This research study was designed as a multistage, iterative design and implementation project based on a Design Based Research (DBR) model (Anderson & Shattuck, 2012; McKenney & Reeves, 2013). Two models of practice (EY and MY) were generated from the literature and validated for content and social relevance (Stage 1). The models were then trialled in multiple primary and secondary schools across Queensland, New South Wales and Victoria (Stage 2). Schools were assigned to one of three professional learning trial conditions (face-to-face coaching, online coaching or access to the model only on the ACRC website) in order to identify the level of support needed to facilitate the future uptake of each MoP by teachers working with students on the autism spectrum throughout Australia.

In this project, each MoP was viewed as a framework of foundational practices that empower teachers to make informed choices about the implementation of learning activities for students on the autism spectrum.

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The iterative design-evaluate-redesign of the MoP prototypes (products) involved the generation and validation of empirically-supported practices. Figure 1 shows the progression of these cycles:

- practice generation and design of Prototype 1
- content validation of these practices
- practice refinement and redesign to create Prototype 2
- social validation of these practices
- practice refinement and redesign to create Prototype 3 for trial in classrooms.

The progression of design cycles resulted in an Early Years MoP (EY-MoP) comprising 29 practices for field-testing in schools. Likewise, the process yielded a Middle Years MoP (MY-MoP) comprising 36 practices for field-testing.

The Australian Standard Geographical Classification (ASGC) was used to identify schools from metropolitan, inner regional and outer regional locations in Victoria, New South Wales and Queensland. Schools in State government, Catholic and Independent education systems were invited to participate. To be eligible for participation in the Models of Practice project, teachers were required to have at least one student diagnosed with autism in their Kindergarten/Prep/Year 1 (Early Years) or Years 7/8 (Middle Years) class.

For the Middle Years stream of the project, an additional participatory role was created, referred to as an Autism Instructional Leader (AIL). The AIL was necessary in Middle Years schools as students usually have more than one teacher. The AIL served as a central point in the delivery of the Models of Practice in each school.

Three implementation conditions were embedded into the trial.

- Condition 1: Those receiving face-to-face coaching to assist with practice implementation
- Condition 2: Those receiving online coaching (e.g., Skype, FaceTime) to assist with practice implementation
- Condition 3: Those receiving only the MoP materials (MoP matrix and practice briefs) via website or email.

A convergent parallel mixed methods (Creswell, 2014) design was employed to gather quantitative survey data and qualitative interview data from teachers prior to (Time 1) and at the end (Time 2) of the 8-week trial period (see Figure 1).
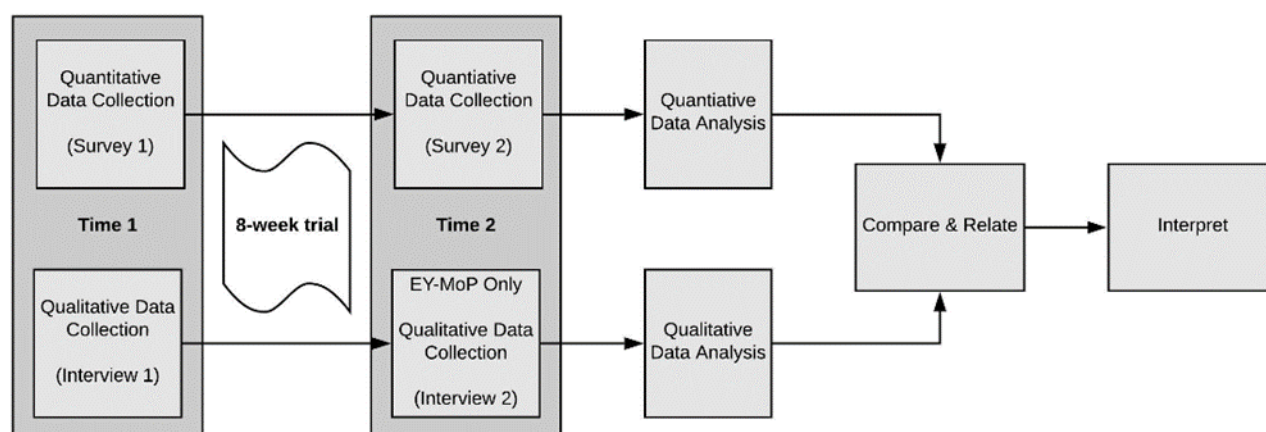
FIGURE 1 MIXED METHOD DESIGN FOR TRIAL

1.3. Data analysis

Quantitative data

Survey data were analysed using descriptive and non-parametric statistics as data screening revealed the presence of both outliers and violations of normality. Means were calculated at T1 and T2 for (a) level of use of individual practices within the model, (b) frequency of individual selected practices used during the trial, (c) teacher knowledge, (d) teacher confidence, and (e) teacher efficacy. Wilcoxon signed-rank tests (Wilcoxen, 1945) were used to determine differences between scores at T1 and T2 across the five variables.

Qualitative data

De-identified interview transcripts were analysed using QSR International's NVivo 11 qualitative data analysis software. Data in each interview were coded according to a three-step process (Bazeley & Jackson, 2013). In Step 1, responses to each interview question were linked to nodes developed from the interview guide to enable the quick retrieval of responses to each question and to facilitate comparison of responses between participants. Step 2 involved coding all mentions of the MoP organisers as well as any discussion of individual practices or practice briefs to the node, MoP. Step 3 focused on specific sections of the interview, which were thematically analysed using open coding to identify salient themes in participants' responses.

Trustworthiness of data was ensured in two key ways. Prior to data analyses, member checking (Creswell, 2014) was used to allow participants to check if data in interview transcripts aligned with what they shared during interviews. To this end, each participant was sent a copy of her transcribed interview for comment and/or revision, but no changes were requested across T1 and T2. During the analysis process, critical discussions among the research team provided an ongoing check on coding of data and specific interpretations (Cho & Trent, 2006).

1.4. Summary of findings

After eight weeks of accessing the MoP frameworks and briefs, EY and MY teachers reported a perceived statistically significant increase in their knowledge of autism and confidence in implementing practices in mainstream classes. Interviews with the teachers indicated that MoPs were well organised and easy to use.

Overall, the teachers found each MoP to be a valuable resource, not only for the students on the autism spectrum, but also for the whole class, as it offered easy-to-access and well laid out strategies. They also indicated that the resource would be extremely helpful to early career teachers. Professional support, especially face-to-face support, was highly valued.

One of the main benefits of MoPs is that they are easy to use, and in the next version, which is to be hosted on the Autism CRC inclusionEd website, the accessibility will be intuitive and contain more video material that is engaging. These modifications will enable time-poor teachers to access information on relevant practices in an efficient and timely manner.

1.5. Implications/recommendations

A range of evidence-based strategies for educating students on the autism spectrum are published in academic literature. They are generally not easily accessible to teachers and are often disseminated in a non-friendly way. Teachers who participated in the trailing of each MoP indicated that the practice framework and related briefs were not only useful for everyday planning but also as a reflective tool. It is recommended that further research be undertaken to evaluate the influence of MoP implementation on student academic and social outcomes.

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