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Building the capacity of schools to achieve outcomes for students with Autism Spectrum Disorders: A pilot project

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Building the capacity of schools to achieve outcomes for students with Autism Spectrum Disorders: A pilot project

Abstract

The number of students with ASD attending mainstream schools has increased dramatically over the past decade. Teachers are reporting they often feel ill-equipped and anxious about meeting the needs of students with ASD in their classroom (Emam & Farrell, 2009). In addition, parents are increasingly expressing frustration with the quantity and quality of support their children with ASD are receiving in school settings and are increasingly resorting to home schooling and other alternative options to meet the needs of their children (Parsons, Lewis, & Ellins, 2009). Finally, school principals have also reported they lack training and information on how to lead school programs that meet the needs of students with ASD (Horrocks, White, & Roberts, 2008). These findings suggest that systematic approaches that provide key stakeholders with training and a workable model is necessary for all stakeholders to feel confident in implementing effective educational programs for students with ASD.

Researchers have identified key features of successful education programs that enable individuals with ASD to achieve good outcomes in schools and particular emphasis has been placed on the importance for schools and educators of utilising evidence-based practices when working with students with ASD. For example, flexibility of programs and ongoing and positive communication with parents and families has been cited by researchers as critical for effective programs for students with ASD (Australian Advisory Board on Autism Spectrum Disorders, 2012; Simpson, deBoer-Ott, & Smith-Myles, 2003). Additionally researchers have stressed the importance of transition planning, individualised supports and planning, structured environments and specialised curriculum for students with ASD to achieve outcomes in school programs (Ivannone, Dunlap, Huber, & Kincaid, 2003). Lastly Bays and Crockett (2007) have stressed that leadership of school principals in establish positive school cultures and modelling of student-centred processes is essential for successful inclusive school programs.

Similarly research also stressed the importance of utilising whole school strategies to develop inclusive school cultures and ethos that cater to the needs of all students including those with disabilities and other diverse needs (Crosland & Dunlap, 2012). Approaches based on Differentiated Instruction and Universal Design for Learning are pedagogies that are considered essential parts of school programs for all students, but particularly for those with autism and other disabilities. In addition, approaches such as Response To Intervention (RTI) and School-wide Positive Behaviour Support (SWPBS) stress that a 3-tiered system of intervention (e.g. school, class and individual) is a critical model for schools effectively catering for students with disabilities.

While there is research on individual elements of evidence-based practice for students with ASD, research is needed to investigate ways of constructing whole school environments that incorporate evidence-based practice and the meaningful inclusion and achievement of students with ASD. Understanding this holistic approach is critical to the creation of effective inclusive programs for students with ASD. In addition, the role of school leaders in guiding and implementing this process requires further investigation.

This paper reports on the outcomes of a pilot project conducted by Griffith University's Autism Centre of Excellence in collaboration with the Far North Queensland Region of Education Queensland during the 2012 and 2013 school years. The primary aim of the pilot project was to trial a school-wide approach to build the capacity of schools to meet the needs of students with ASD and to enable these students to achieve quality academic and personal outcomes. Specifically the project was conducted to address the following goals:

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1. Engagement of school leaders in implementation of systematic change across school and individual student processes to facilitate achievement and outcomes for students with ASD.
 2. Utilisation of whole school model to build capacity of schools to cater for and achieve outcomes for students with ASD.
 3. Fidelity of implementation of practices by all stakeholders (school leaders, teachers, students, and parents)
 4. Increased positive engagement of students with ASD, demonstrated by significant positive change on criterion based measures and improved school attendance.
 5. An improved sense of confidence and capacity in teachers working with students with ASD.

Keywords

disorders, pilot, capacity, schools, achieve, project, outcomes, building, students, autism, spectrum

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FINAL REPORT

*Building the Capacity of Schools to Achieve Outcomes for
Students with Autism Spectrum Disorders: A Pilot Project*

*Conducted by the Autism Centre of Excellence, Griffith University
for the
Department of Education, Training & Employment, FNQ*

24 March 2014

Completed by: Dr. Amanda A. Webster and Professor Jacqueline R. Roberts

Building the Capacity of Schools to Achieve Outcomes for Students with Autism Spectrum Disorder: A Pilot Study

Introduction

The number of students with ASD attending mainstream schools has increased dramatically over the past decade. Teachers are reporting they often feel ill-equipped and anxious about meeting the needs of students with ASD in their classroom (Emam & Farrell, 2009). In addition, parents are increasingly expressing frustration with the quantity and quality of support their children with ASD are receiving in school settings and are increasingly resorting to home schooling and other alternative options to meet the needs of their children (Parsons, Lewis, & Ellins, 2009). Finally, school principals have also reported they lack training and information on how to lead school programs that meet the needs of students with ASD (Horrocks, White, & Roberts, 2008). These findings suggest that systematic approaches that provide key stakeholders with training and a workable model is necessary for all stakeholders to feel confident in implementing effective educational programs for students with ASD.

Researchers have identified key features of successful education programs that enable individuals with ASD to achieve good outcomes in schools and particular emphasis has been placed on the importance for schools and educators of utilising evidence-based practices when working with students with ASD. For example, flexibility of programs and ongoing and positive communication with parents and families has been cited by researchers as critical for effective programs for students with ASD (Australian Advisory Board on Autism Spectrum Disorders, 2012; Simpson, deBoer-Ott, & Smith-Myles, 2003). Additionally researchers have stressed the importance of transition planning, individualised supports and planning, structured environments and specialised curriculum for students with ASD to achieve outcomes in school programs (Ivannone, Dunlap, Huber, & Kincaid, 2003). Lastly Bays and Crockett (2007) have stressed that leadership of school principals in establish positive school cultures and modelling of student-centred processes is essential for successful inclusive school programs.

Similarly research also stressed the importance of utilising whole school strategies to develop inclusive school cultures and ethos that cater to the needs of all students including those with disabilities and other diverse needs (Crosland & Dunlap, 2012). Approaches based on Differentiated Instruction and Universal Design for Learning are pedagogies that are considered essential parts of school programs for all students, but particularly for those with autism and other disabilities. In addition, approaches such as Response To Intervention (RTI)

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While there is research on individual elements of evidence-based practice for students with ASD, research is needed to investigate ways of constructing whole school environments that incorporate evidence-based practice and the meaningful inclusion and achievement of students with ASD. Understanding this holistic approach is critical to the creation of effective inclusive programs for students with ASD. In addition, the role of school leaders in guiding and implementing this process requires further investigation.

This paper reports on the outcomes of a pilot project conducted by Griffith University's Autism Centre of Excellence in collaboration with the Far North Queensland Region of Education Queensland during the 2012 and 2013 school years. The primary aim of the pilot project was to trial a school-wide approach to build the capacity of schools to meet the needs of students with ASD and to enable these students to achieve quality academic and personal outcomes. Specifically the project was conducted to address the following goals:

1. Engagement of school leaders in implementation of systematic change across school and individual student processes to facilitate achievement and outcomes for students with ASD.
2. Utilisation of whole school model to build capacity of schools to cater for and achieve outcomes for students with ASD.
3. Fidelity of implementation of practices by all stakeholders (school leaders, teachers, students, and parents)
4. Increased positive engagement of students with ASD, demonstrated by significant positive change on criterion based measures and improved school attendance.
5. An improved sense of confidence and capacity in teachers working with students with ASD.

Method

Background.

The research project was initiated after the region established a regional working party for Autism Spectrum Disorder. The advisory team consisted of parents of students with ASD, the regional director, and representatives of various key positions throughout the education system including, principals, special education teachers, classroom teachers, and others. This group initiated consultation with Professor Jacqueline Roberts and Dr. Amanda Webster at Griffith University's Autism Centre of Excellence about a possible project to build capacity

of schools to cater for students with ASD across the region. This paper presents the report of the pilot project.

Participants.

The study was conducted in the Far North Queensland region, which extends from just below Cardwell to the top of the Cape York Peninsula and Torres Strait. The ABS estimated the population as just over 275,000 in 2010. Approximately 25% of the state's Indigenous population lives in the Far North Queensland region and comprises 12% of the total population of the region. All three pilot schools were located in an urban area. It is also important to note that there is no provision for a special school within this particular urban area although there is one small special school in another area of the Far North Queensland region.

Three schools participated in the study. School 1 is a Prep through year 12 school with a population of approximately 1800 students (800 primary and 1000 secondary). The majority of families at School 1 fall in the mid to high socio-economic range and are mostly professionals or in small business. They have a small population of Aboriginal (6%) students and students from ESL backgrounds (2%). School 2 is a primary school with a total enrolment of 900 students. The population of the school is quite diverse with 13% Aboriginal students, 15% Torres Strait Islander students, and 10% from Pacifica backgrounds. School 2 reports their students come from 34 countries and represent many language backgrounds. The majority of the families in the school fall in the low socioeconomic income range. School 3 is a high school located close to School 2 with a population of around 790 students. The demographic representation of students and families is similar to that of School 2.

All three schools were reported to be very proactive in addressing the needs of students with diverse needs including those with ASD. In addition, the leadership teams at the schools demonstrated a willingness to participate in the project and represented both primary and secondary schools with a sizable population of students with ASD. have a reputation in the region for above average outcomes for students with disabilities and particularly for good practice for students with Autism Spectrum Disorder. At the beginning of the study, School 1 (enrolment 1800) reported a total of 98 students across the school who had a verified disability, of these 52 students across the school (27 primary, 25 secondary) had been verified as having autism spectrum disorder. An additional 12 students were awaiting diagnosis and verification of ASD by Education Queensland. School 2 (enrolment 900) reported they had a total of 31 students with a verified disability at the start of the study. Approximately 14 of these students had a diagnosis of ASD and nine additional students were awaiting verification

and diagnosis. School 3 (enrolment 790) reported a total of 49 students with verified disabilities, 17 students of whom had been verified as having ASD. There were two additional students who had been diagnosed but were awaiting verification from Education Queensland. It should be noted that although these were the initial numbers given when the schools first agreed to participate, by the time the project was actually initiated, each school reported they had increased their population of students with ASD so that School 1 had approximately 70 students with ASD and Schools 2 and 3 had approximately 20 students each with ASD.

Initially the principals and head of special education (HOSE) from each school were the primary participants in the project. After the initial workshop, however, each school also nominated a classroom teacher and a parent of a child with ASD to make up the school's ASD leadership team, a key component of the project model. School 1 elected to have additional members in their leadership team with a classroom teacher, parent, and teaching assistant representing both the primary and secondary sides of the school. The research team was comprised of Professor Jacqueline Roberts, Dr. Amanda Webster and Dr. Greta Ridley from Griffith University's Autism Centre of Excellence and Ms. Susan Hoad from the Far North Queensland Region of Education Queensland. During the project, Dr. Webster served in the roles of coach, mentor and critical friend to the three schools. Dr. Webster and Professor Roberts visited each school at the beginning of the project and at the end of the project to conduct the evaluation. Dr. Webster visited each school an additional two times during the project to provide support and coaching around expectations and issues. She also acted in the roles of mentor and critical friend through regular contact with each school through phone calls and e-mails. Although Dr. Webster and Professor Roberts maintained contact with the three school principals, their primary point of contact at each school was the school HOSE.

Model Procedures.

The project ran from August, 2012 to December, 2013. It was originally planned to last for a year, but issues with staff turnover and competing demands in schools necessitated the extension of the evaluation to the end of 2013. The purpose of the project was to trial a model focusing on a whole school approach to build capacity to improve outcomes for students with ASD. Engagement of school leaders is the key initial component and critical to drive the project and implement the model. Implementing the model entails:

- the establishment of a school ASD leadership team;

- professional development on autism spectrum disorder and evidence-based practice in schools for students with ASD;
- use of school assessment instrument;
- identification of target students; and
- development of school action plan to develop and implement school-wide and student centred practices.

Involvement of parents and families of students with ASD is critical to success of the whole school capacity building model. In addition, although it was initially planned that the research team would provide initial and ongoing professional development and assist with troubleshooting, it quickly became apparent that the support of an external coach/mentor/critical friend, who had specialised knowledge and expertise in research and practice of autism spectrum disorder, was necessary for schools to implement the model over time. This role was assumed by one of the research team from the Autism Centre of Excellence at Griffith University who assumed different roles over time including providing professional development and “coaching” sessions to individual schools as needed, touching base on a regular basis to discuss issues and targets with school leaders, and providing expertise and research-based knowledge when issues arose. The support of the coach/mentor/critical friend was subsequently identified as being necessary for the successful implementation of the whole school capacity building model in schools.

A few months prior to the commencement of the project in August 2012, several of the participants participated in a full-day workshop in which they examined the need for evidence-based practice for students with ASD at both the school and individual student level in inclusive schools and examined the need to create a vision and focus for students with ASD at their school. This initial workshop generated an interest in schools and resulted in three schools agreeing to participate in the pilot of the whole school capacity building model.

After schools were selected for the project, school principals and HOSEs from each school participated in two half-day professional development sessions which provided them with training in the whole school model, steps involved and research on best practice for school leaders, school communities to support students with ASD and research on practices and strategies that has been linked to comprehensive outcomes for students with ASD at the whole school and individual level. These sessions were followed by school visits by the Griffith research team to gather baseline data on each school community and current measures and outcomes for students with ASD. Throughout the length of the project, principals and HOSEs participated in an additional online professional development session

and HOSEs engaged with Dr. Webster in additional face-to-face coaching and mentoring sessions and several mentoring sessions over the phone. This allowed participants to work with the research team to continue their learning in regards to effective whole school and individual strategies and to troubleshoot issues and obtained support when needed to implement their action plans.

Following the first session, each school established a school ASD leadership team and developed a vision statement for their school. The school leadership team completed the Whole School Profile Instrument to assess their school's current practices against the extant research on good practice for students with ASD in the areas of Conditions for Learning, Curriculum and Teaching, Professional Development, Community and Family Support, and Shared Leadership, which have been found to be critical for school leaders to achieve outcomes for students. Using information from the completed profile, school ASD leadership teams established priorities for their school, objectives and outcomes for whole school processes and determined actions required to meet those objectives. Additionally school leadership teams identified at least five target students who required individualised support. They established target outcomes for these students and actions to achieve those outcomes as part of their action plan. In order to collect data on these individual outcomes, schools were coached in utilising Goal Attainment Scaling.

Evaluation Procedures.

Using a combination of action research and qualitative methodology and analysis, several measures were utilised to evaluate the outcomes of the whole school approach model. In November 2013, school leaders repeated the assessment of their school's practices using the whole school profile instrument. In addition, outcomes of actions at the school and individual student level were evaluated. This included the use of Goal Attainment Scales to measure student outcomes. Researchers conducted interviews in November 2013 with school principals, HOSEs, classroom teachers, parents and other members of the school ASD leadership team. Finally, schools worked with the research team to develop case studies highlighting promising practices they had developed at the school, teacher and student level that were successful in meeting the needs of students with ASD.

Results of interviews and case studies were analysed and coded for themes using Boyatzis' method of theoretical analysis. Themes were then subdivided into subthemes and were compared to determine themes, factors and outcomes that were common across all three schools and to identify those outcomes and themes that were unique to individual schools.

Results were then triangulated with the evaluations of action plans to form a narrative of each school's journey as well as of the three schools as a group. Finally, issues and challenges for schools in implementing the project and for individuals were identified and recommendations made for future action. In the following sections key findings across all three schools will be presented followed by three case studies describing each school's key actions, outcomes, and reflections.

Results

Key priorities and objectives.

After completing the Whole School Profile assessment, schools identified a total of 15 priorities for action at the school-wide level. The largest number of these (n=4) fell in the areas of Professional Development, which included developing knowledge of school staff of autism spectrum disorder and evidence-based practice; and in Conditions for Learning, which included providing alternative programs during playground times and using visual supports and social stories to support students. Next schools identified three priorities in the area of Shared Leadership including actions such as the development of a differentiation policy, facilitation of shared responsibility for students with ASD across the school, and collection and use of data to make decisions about programs and student outcomes. Two priorities were identified in the area of Curriculum and Teaching. These involved developing differentiated curriculum units in different content areas and explicit teaching of social skills through school wellbeing programs. Finally, one school identified a priority in the area of Parent and Community Support with a focus on establishing a support and information network for parents.

Achievements and outcomes for school communities.

Individuals reported achievements and outcomes for schools that fell into three broad areas: leadership, staff, and program outcomes. In the area of leadership outcomes, principals and school leaders reported heightened knowledge and skills in dealing with needs and behaviours of students with ASD. In addition, schools developed policies and procedures to help promote good practices such as differentiation of instruction and shared responsibility of staff for students with ASD across the school. The establishment of the school ASD leadership team resulted in parents, classroom teachers, and teaching assistants being incorporated into decision making and action planning for students with ASD at the school. The benefits of this are illustrated by a statement from one teacher that the project created a

bridge between the mainstream teaching staff with staff from the unit and to create relationships between the two groups. She also added that she has particularly benefitted from hearing about what the unit staff does and how it impacted her class. School leaders also felt that the approach strengthened the relationship and clarified the roles and responsibilities of principals and HOSEs in addressing the needs of students with ASD.

Staff outcomes were also documented in interviews and evaluations of action plans. All three schools felt that their staff had increased their knowledge base about the characteristics and needs of students with ASD. One school particularly concentrated on providing professional development to new staff, while another school focussed on engaging specific teachers and all teacher assistants with an online ASD training package. Principals and classroom teacher representatives of the ASD leadership team particularly commented that they had gained specific knowledge and skills in working with students with ASD at their school. Schools also developed knowledge of staff in providing evidence-based practice to increase outcomes in academic and behaviour areas. Two schools concentrated a great deal on improving their staff's knowledge of foundational practices such as differentiated instruction and the use of UDL to help students with ASD to achieve academic outcomes within the framework of the Australian national curriculum. Two schools also devoted time to increasing their staff's knowledge of ways to deal with behaviour difficulties demonstrated by students with ASD, particularly in playground settings. An unexpected finding was that all three schools found they needed to provide professional development and support to staff in order for staff to develop effective and measurable goals for students with ASD that were formed the basis of individual education programs, and then to translate these schools into measurable scales (goal attainment scales) that provided data on student outcomes. Finally participants also mentioned that they benefitted from the project by being able to reflect on what they knew and determine how to move forward to get an end result.

The last area of school-wide outcomes identified by schools was program outcomes. Several people mentioned that engaging in the whole school approach had enabled their school to involve significant members of the school community in examining and developing school practices for students with ASD. Parents, in particular were included in formal ways through involvement in ASD leadership teams. All three school principals had also utilised resources creatively to focus staff specifically on the needs of students with ASD and all three schools had established and effectively utilised a continuum of placement for students with flexibility to move between full inclusion in mainstream classes and participation in special education programs when needed. Each school created a vision statement for students

with ASD and documented effective processes and programs for sustainable practice. Each school had also concentrated on developing more effective ways to collect data on the individual achievement and outcomes for students with ASD, particularly in non-academic and ASD-specific areas such as social skills, communication, and adaptive behaviours and resilience of students with ASD. Most importantly schools were able to develop foundation programs and staff awareness to benefit not only students with ASD, but other students as well.

Change in practice.

Members of the school leadership teams were asked to identify ways in which their school had changed its practice utilising evidence-based practice for students with ASD as a result of implementing the whole school capacity building model. One of the most frequently noted changes was the change in staff thinking about students as the centre of the education process. Similarly participants reported that a major change was in the special education staff's ability to write and use goals and plans to improve student outcomes in academic areas and to support behaviour. Changes in case management were also noted with one school focusing on establishing clear expectations for students in social and academic areas, while another school focused on building a team process to address case management needs of all students. The third school, which was a high school, identified the need to reframe the case management system for all students across the school to a student centred process and build this into their action plan for the following year. Lastly, all schools examined and utilised processes to maximise their resources to prioritise implementing research-based processes across the school.

Shared leadership: Role and responsibilities of ASD leadership team.

Principals and HOSEs.

Principals and other participants were asked to discuss the role that principals played in the implementation of the whole school model. Responses indicated that although principals varied in many of the roles they played, their primary responsibility was to provide support to HOSEs and staff to implement the project. This support took different forms, but primarily involved creating administrative structures and examining and maximising school resources to support the implementation of priorities and actions across the school. Principals also reported that they actively engaged with HOSEs much more about programs and outcomes for students with ASD and that they felt a critical part of their role was to model the implementation of the vision for students with ASD at the school. Additionally principals

verified that they were responsible for monitoring the implementation of the plan and working with HOSEs to troubleshoot issues as they arose. The degree and ways in which principals actively engaged with team members and participated in the project varied between the three schools from active and ongoing participation and support, to ongoing monitoring and active and direct support, to regular monitoring and strategic support. School results indicated there was a link between the level of active participation of the principal and the outcomes at both the school and student level. The school in which the principal was the most active was also the school in which the most participants stated they knew about the project, were involved in implementing the actions of the project and felt they had strong support and programs for students with ASD at the school. The school in which the principal was least engaged in the project, was the school with the least systematic change at the whole school level although they reported improved outcomes for individual students as a result of the increased knowledge of staff. Across the three schools, the three principals varied in their approach to implementing the whole school model based on the baseline level of knowledge and practices of the school community.

The HOSEs at each school assumed the role of primary manager of the project. HOSEs reported they were responsible for guiding the direction of the ASD leadership teams, overseeing the implementation of specific actions as well as the professional development of staff, particularly in regards to goal setting and data collection for students. HOSEs were also most directly involved in establishing case management for individual students including setting targets and communicating with parents. Their approach differed depending level of active participation of their principal in the implementation of the project and the amount of time they had to interact with their principal about project issues. They also assumed the role of managing the communication with the research team and particularly with Dr. Webster in her role as coach and mentor. Finally, all three HOSEs worked closely with the Dr. Webster to identify and address particular issues and needs as they arose at their school, assumed responsibility for the paperwork involved in the project, and communication with the research team.

Classroom teachers and parents.

Interviews with classroom teachers and parent members of the ASD leadership teams indicated that the roles for these participants was much less clearly defined and varied greatly between the three schools. One consistent finding, however, was that these persons were fairly unclear about the overall aim of the project and the components of the whole school model although all did identify that they were working to develop better practices for

students with ASD. Each school had utilised their ASD leadership teams in different ways and varied the frequency of meetings. All three school principals and HOSEs stated that they felt their team was not able to meet as often as they would have liked. Again there was a direct link between the active engagement of the principal in the project and the engagement of the classroom teacher and parent. The parent and teacher at the school where the principal was the most engaged were also the most informed about the project and their roles in the ASD leadership team, whereas at the school where the principal had been least able to actively engage, the parent and classroom teacher knew very little about the project other than that they had been asked to be on the team.

Interaction between team members.

Not only did individual members of the ASD leadership teams play a critical role in the implementation of the whole school model, but various interactions between team members were identified that were essential to the ability of schools to successfully implement the model and change practices at both the whole school and individual student level. Of particular importance was the partnership that developed between the school principal and HOSE. It was apparent that at all schools the amount and type of collaboration between principals and HOSEs and the way that these individuals worked together to manage the various roles and responsibilities for students with ASD at their school was linked to higher degrees of implementation of strategies across the school and to the change in practice demonstrated by staff throughout the school as well as outcomes achieved by individual students with ASD. This was particularly at one school in which the principal and HOSE reported that the process gave them an action research framework from which they could examine key questions in relationship to the needs of students with ASD and utilise data to critically reflect on the current practices throughout the school and outcomes for students with ASD and to then use this reflection as a springboard for engaging in the change process. Most importantly the HOSE and principal related that the process allowed them to engage in collaborative reflection around critical factors for students with ASD. This was reiterated by another of the principals who reported that the model brought the needs of students with ASD to the forefront of his discussions with the HOSE and focused their work together on developing specific processes and outcomes throughout the school.

Another key factor in the success of the model and outcomes for school communities, was in the way that the principal and HOSE supported each other and built on each other's strengths. Principals reported that one of their primary contributions to the implementation of the model was to actively establish with staff the importance of building the capacity of the

school to cater for students with ASD. In addition the amount at which they directly modelled the value of the HOSE as a school leader was directly linked to the level of confidence the HOSE reported in working with staff across the school to develop school-wide processes and strategies and the degree of engagement of staff with the HOSE in developing a culture of shared responsibility for students with ASD. Similarly, principals suggested that having a HOSE who possessed knowledge of research and practice in regards to evidence-based practice and curriculum for students with ASD, enabled the principals to develop the training and skills they needed to be more effective leaders for staff and students, thus suggesting that principals and HOSEs were able to support and build on the skills of the other to demonstrate a shared model of leadership.

Finally, participants also highlighted that the way they approached the formation and responsibilities of the leadership team had an impact on their ability to successfully implement change throughout the school and impact perceptions and practices of all individuals within the school community. Each school approached this in a somewhat different manner, but consistent among the three schools was a focus on utilising the ASD leadership team to address systematic change, not just for students with ASD, but for also for students with other disabilities and diverse needs. As one HOSE related, “we never saw this as an ASD project, but a model from developing best practice to help everybody, including students with ASD and other disabilities”. She also added that focusing on the specific needs and outcomes of students with ASD provided a forum to build the school’s capacity to cater for the individual needs of all students and to develop a shared responsibility of all staff and teachers around the core business of developing high quality teaching practices across the school for all students including those with ASD. Statements from the other two school principals and HOSEs also echoed their use of the ASD leadership teams to develop policies and processes that would benefit not only students with ASD, but other students throughout the schools as well. For example, School 1 focused on establishing a Differentiation policy for students at the school and on developing more effective referral and behaviour management processes for student, whereas focusing on the needs of students with ASD led School 3 to identify the need for systematic change to address the overall wellbeing and individual needs of all students across the school.

Critical factors.

Analysis of case studies and interviews also documented factors that participants felt were critical in their ability to successfully implement the whole school model for students with ASD. The most important of these factors was the engagement of the school principals

in the process. As mentioned in the previous section, the active participation of the school principal was definitively linked to the overall outcomes of each school and the knowledge and level of responsibility each member of the ASD leadership team was able to assume in the implementation of the actions to achieve both school-wide and individual student outcomes. More importantly the engagement of the school principal was also directly linked to the amount of whole of staff involvement in the implementation of the plan and the outcomes achieved for individual students. The second most important factor that participants identified as being essential to the implementation of the whole school approach was the support of an external expert who played the varying roles of coach, mentor, and critical friend. Dr. Webster assumed these roles throughout the project. Participants indicated that at various times, Dr. Webster provided coaching in the form of specific training such as professional development on development of Goal Attainment Scales. She also provided mentoring throughout the project by touching base with the HOSEs over the phone or by e-mail and helping them to keep focused on the project with the competing demands of the school day. She also helped to troubleshoot issues as they arose. Finally, schools felt that it was very helpful to have a critical friend who was knowledgeable about research and evidence-based practice and who could provide specific information in this area when needed.

Another critical factor identified by participants was the need to redefine the concept of support for students with ASD. All three schools had examined their practices at school-wide (Tier 1), targeted group (Tier 2) and individual levels (Tier 3) and the programs they were providing to students throughout the school at each of these tiers of support. Participants also felt that a strength of their three schools was their ability to maximise the staff and resources they had and to implement a continuum of placements and programs for students throughout the school. Participants also felt that communication with parents and the wider school community was essential for any whole school approach for students with ASD. All three schools also noted the need for developing processes to support students and families with complex case management needs. The need for regional support to schools to help build sustainability was also highlighted.

Student outcomes.

Case studies, reviews of action plans, and interviews indicated that outcomes for students were both direct and indirect. Student outcomes were primarily measured through case studies, behaviour records, and at one school through academic records and Goal Attainment Scales. Analysis of case studies and other measures indicates that reduction in

behaviour challenges was the leading outcome for students as a result of schools implementing the whole school model. One HOSE reported a significant reduction from 40% to 0% of students with disabilities in the “red zone” of critical behaviour incidents. They also reported that all students with recorded behaviour incidents had a decreased behaviour incidents ranging from 60-100%. Another HOSE reported significant decreases in behaviour incidents during playground sessions as a result of increased awareness and consistent practices of staff as well as the provision of an alternative program during lunchtimes. Another outcome for students was a progression to more inclusive placements for students who had previously not been enrolled or were enrolled in special schools in other locations, to being fully included and engaged in classrooms and achieving academic outcomes. This HOSE also added that 90% of all students with ASD had made good progress in reading and 85% of students had gained one or more year levels in all key learning areas during the past year. Adding to this finding, the principal at one of the schools stated that the most significant outcome of their school’s implementation of the whole school model was that the students with ASD were achieving academically and reaching their potential according to school reports and academic measures in literacy and numeracy. The last outcome reported for students was the development of more effective case management systems in schools, particularly for those students with complex needs.

One of the surprising findings of the project was that schools lack the means to effectively track data on outcomes for students with ASD outside the traditional academic areas. This will be discussed in more detail in the next section.

Challenges and issues.

Quite a few challenges were identified by participants, but the two that were overwhelmingly reported were the issue of staff turnover and the management of competing school priorities. During the 1.5 years of the project, all three schools experienced significant staff turnover as staff took on new positions, went on temporary leave, or left the school for another position. It is interesting to note that during one term all three principals were away from the school for the entire term. Two of the three principals assumed new positions and were away for the last semester of the project. Fortunately all three HOSEs remained for the length of the project although one did go on leave for several weeks during one term. In addition, all three HOSEs reported they had had changes in members of the ASD leadership team due to staff turnover. The second challenge most reported by participants was managing competing priorities within a limited time frame. Both principals and HOSEs mentioned that keeping the whole school approach at the front of the school’s agenda in competition with

other demands placed on schools was quite challenging at times. As one principal stated, “ at times I’ve been completely disconnected with the project, you know just distracted by other things and you know, while that happens, it doesn’t necessarily sit well”. Principals also mentioned the need to prioritise this approach and resource it properly at the regional and state level. One principal also specifically mentioned he would have liked to have been able to spend more time with the other principals in the project and share information about how they were implementing the approach at their schools. All three HOSEs also mentioned the difficulty in keeping the project a priority as they negotiated the multiple demands of the school environment. They reported they wanted to give “justice to the work” and felt that the mentor and coach had really helped them to keep on track.

Principals and HOSEs also identified a surprising challenge that faced all three schools as the project developed. During the course of the project, all three schools reported a fairly significant increase in enrolment of students with ASD. They indicated that parents stated they had specifically sought enrolment at these schools as they had heard the schools were supportive of students with ASD. Some parents even mentioned they knew the schools were involved in a project to build capacity for students with ASD. Although principals were supportive of students with ASD at their school, they reported that they felt the numbers were becoming somewhat disproportionate. As one principal stated “there’s a significant difference to a classroom teacher having one ASD student to having three in the classroom”. Another principal stressed what they were doing should be a model and other schools should be doing the same thing. Another challenge identified by the three HOSEs was managing the needs of students who demonstrated difficulties and often were performing more poorly than students with ASD, but who were not verified as having a disability and were therefore not eligible for as much direct funding or support. They did feel, however, that the strategies implemented by the schools for students with ASD benefited these students as well. HOSEs also cited the initial development of knowledge, processes and tools to implement the actions in the whole school approach was a bit of a challenge for them individually, particularly in the initial stages of the project. They did report, however, that the project had enabled them to develop their own leadership skills.

Another challenge that developed through the project was the issue of collecting data to determine outcomes for specific students. At the beginning of the project, the research team gathered information about how and what type of data schools collected for students with ASD. All three schools had placed a priority on obtaining and using data to track literacy outcomes for students, including those with ASD. Behaviour records were also discussed, but

schools reported that behavioural data was not always kept consistently depending on time or severity of the incident. Thus it was decided to utilise IEP goals and data and the use of Goal Attainment Scales to measure outcomes in ASD specific areas for students. This, however, presented another challenge as HOSEs and staff realised they needed to undertake professional development in order to learn how to establish baselines and develop measurable goals and Goal Attainment Scales. The issue of helping teachers to accurately assess baseline data and measure outcomes for students continues to be ongoing and requires further research.

Case Studies.

So far, this report has highlighted common findings among the three schools. It is important, however, to highlight that although some outcomes varied, each school was primarily evaluated in relation to its own journey and outcomes rather than how outcomes compared to that of the other two schools. In the next section, case studies highlighting each school's journey will be presented.

School 1.

A case study of School 1 focuses on *Engaging school leaders and teachers in a community of practice*. School 1 began the project as having a good reputation in the community for catering for the needs students with diverse needs. Being a Prep through Year 12 school, it had an large overall population of students with a significant number of students with verified disabilities (5.5%). The principal and HOSE reported they had a good working relationship at the beginning of the project which was strengthened as they implemented the whole school model. One of the key outcomes for this school was the development of shared responsibility for students with ASD and other disabilities across staff and the diversification of leadership of initiatives through the school ASD leadership team. School 1 had the most diversified ASD leadership team with two parent representatives, 2-3 classroom teachers, 3 special education teachers, the school principal, and several teaching assistants. This group divided into subgroups which each focused on a different priority and objective in the school-wide action plan. As a result, both classroom and special education teachers reported they were able to build relationships and learn from each other in ways they hadn't before. School 1 also focused a great deal on building capacity of school leaders and school systems to consistently case manage the academic, social, and behaviour needs of students with ASD and their families. In particular, they developed a system for dealing with behaviours in which all members of the school leadership team were knowledgeable and confident to deal with behaviour and other incidents involving students with ASD. This resulted in less stress

and more time for the HOSE to deal with other matters and a more inclusive model of distributed responsibility for students with ASD. Additionally the school developed a case management team that dealt with all student referrals providing a more comprehensive support system. Finally, School 1 focused on developing the skills and capacity of staff in foundational processes through development of a differentiation policy and provision of professional development in use of differentiation in classrooms for students with diverse needs. The team also focused on building skills of special education staff in the area of case management and focused on developing a better case management plan and responsibilities and developing capacity of special education staff to write measurable goals for students.

School 2.

The journey of School 2 can be best described as a *Synergy of special education and mainstream education programs for an effective system of support across the school*. The case study of School 2 is best exemplified by the statement of the parent member of their school ASD leadership team who stated that “I can go to anyone at this school including the front office staff”. School 2 started their journey with a system in place for collaboration between special education and mainstream staff and programs. During the course of the program they strengthened their case management process and whole school use of differentiation. Through this they were able to also build good knowledge and positive feelings of all staff in catering for the needs of students with ASD within their classrooms. School 2 also concentrated on the collection and use of data to monitor student outcomes and developed Goal Attainment Scales for both student and school outcomes, demonstrating measurable achievement in both areas.

School 3.

The third case study of School 3 is best described as *the school journey toward developing a school-wide understanding of ASD*. School 2 successfully negotiated engagement of all school assistants in the online training package and worked to develop all school staff knowledge of ASD. They also conducted a thorough examination of current school practices and identified a need to restructure the school’s case management to a more student-centred system for all students. In addition, the HOSE of School 3 concentrated on developing relationships with teachers to build the capacity of staff and develop ASD friendly environments for students throughout the school. This resulted in several students with high levels of anxiety becoming more engaged and confident and increasing their attendance at school. She also concentrated on strengthening relationships with families and

finding key people within the school staff were willing to share responsibility in initiating initiatives such as the 'Projects of Passion' program for students on Wednesday afternoons.

Discussion

Key findings and recommendations.

Overall the findings of the project were very positive. All three schools established effective processes at the whole school and leadership level and particularly developed programs and supports at the school-wide or Tier 1 level. All schools focused on increasing school-wide knowledge and awareness of the needs of and evidence-based practice for students with ASD. Schools also were successful in establishing whole school processes and systems, such as better use of differentiation in classrooms and behaviour management practices that would support not only students with ASD, but many other students as well. In addition, all three schools developed targeted programs at the group or Tier 2 level in which they established specific intervention to address the needs of students with ASD and diverse needs at the group or classroom levels. Programs such as the alternative break programs and targeted literacy groups were effective in meeting a specific need identified in a number of students, including some who had needs other than ASD. Lastly all three principals and HOSEs were creative in their use of school resources to create additional supports for staffing, alternative programs, and resources. It is important to note that none of the schools received extra funding for additional staff or resources at the school, but that principals used the model to make strategic decisions about the allocation of resources and staff to create a continuum of placements and programs in which students had flexibility of options including alternative classroom programs to support in small groups and in inclusive classroom settings. Most importantly the respondents reported that the project enabled them to examine different types of support they could provide by creating a shared culture of responsibility and practice for all staff for all students, including those with ASD.

Although all schools reported a significant change in staff knowledge and awareness as well as general student outcomes such as reduction in behaviour incidences and increase in academic engagement and performance, only School 2 was able to collect specific data demonstrating pervasive impact on all staff practice and individual student outcomes across the school. Based on the reports of the respondents at the other schools, it was felt that these schools also saw change in teacher practice and increased student outcomes, but that these changes had been with some teachers and students but had not yet permeated the entire

school community. It is interesting to note that School 2 was also the only school in which parents and classroom teachers were able to report on outcomes of the project at their school. In contrast, at School 1, parents and classroom teachers were aware of the primary focus and objective for their subgroup of the leadership team, but reported they didn't know what other groups were doing. At School 3 parents and classroom teachers reported only marginal awareness of the project. This lack of knowledge may be linked to the fact that school leaders did not systematically communicate the aims of the project and the priorities, objectives and actions for school-wide action to the entire school community. It is recommended that school's employing the whole school model in the future ensure they clearly communicate their involvement and goals in implementing the whole school model as well as the roles and responsibilities and anticipated impact upon different members of the school community.

In addition, School 2 was the only school that had effectively established effective processes at the individual student (Tier 3) level including an effective case management system, which involved a high degree of collaboration between special education and mainstream education teachers. It should be noted that School 2 did start the project having already made some progress in this area and so had a higher baseline level from which to work. More importantly, however, it was obvious from the reports of parents, classroom teachers and the coach/mentor that the key factor in the level of outcomes demonstrated for students and staff at School 2 was the active engagement of the principal and the amount and quality of the collaboration between the principal and HOSE. Through this partnership, the HOSE was supported and given the guidance, encouragement, and trust she needed to implement the day-to-day responsibilities of the project. In addition, by modelling the importance of the school's involvement in the project to achieve outcomes for students with ASD, staff were clear about how this project fit with others in the school. Thus the principal paved the way for the HOSEs to develop collaborations with and practices of teachers across the school. The level of impact at School 2 was exemplified by the following statement made by the parent member of the leadership team.

The children feel that they can actually approach almost any teacher, I guess. I mean, I know my kids are a little funny about changes, so if it's not their teacher they're a little bit more reluctant, but because they all know that all the teachers can help them, they know they can go to any teacher.

Although both HOSEs at the other two schools were passionate about outcomes for students with ASD and support from their principals, the principals were not able to be as actively engaged in the decision making and prioritisation of the project with school staff across the school. This resulted in a lack of confidence and support at times for the HOSEs to

set in place systematic processes across the school that involved changing teacher practice. This is consistent with research of (Crockett, 2002; Mrozowicz, 2009) that active engagement and modelling of school philosophy and practices by school leaders is essential to build capacity of schools for students with disabilities. Finally only School 2 was really able to effectively utilise data to measure student outcomes although the other two schools concentrated a great deal on up skilling their staff to be able to develop and utilise Goal Attainment Scales to measure student outcomes and were collecting measures of progress in literacy and numeracy. One particular challenge faced by the research team during the project was finding appropriate measures which schools can use to establish baseline levels and measure achievement of students with ASD in different areas. In addition, a key item for future research will be to examine ways in which schools could better translate actions of school leaders to have a positive impact on teachers and students. Difficulties in translating school-wide objectives and actions may have been the result of a failure to incorporate this into the school's action plans. It is recommended that schools implementing this model in the future should establish in their action plans, the impact that each objective and action will have on teachers and students and how data will be used to evaluate outcomes for teachers and students.

Future research.

After review of the findings of this project, the following critical topics were identified for future research and development of the model:

1. The development of supports and practices across the secondary (classroom) and tertiary (whole school) levels including the development of effective classroom practices and ongoing supports for students with ASD.
2. Further examination of the integration of special education and regular education and shared responsibility of students with ASD needs, particularly at the secondary level where many teachers deal with one student across the course of the week.
3. Finally, the ongoing and meaningful involvement of parents in the implementation of the whole school model and involvement in the ASD leadership team needs further improvement and support.
4. The current project was not able to address engagement and self-advocacy of students with ASD in the whole school approach. This is an area of extreme importance and should be incorporated into further implementation of the whole school capacity building model.

Future implementation.

As it was the intention of this project to develop a model that could be replicated across schools and throughout the state, the next section will present a summary of the model as it has been informed by the pilot and will present suggestions for future replication and implementation in schools. The primary aim of the *Whole School Capacity Building model* is to build the capacity of schools, regions, and education systems to meet the needs of students with ASD and allow them to achieve quality outcomes in school settings. This is accomplished by the provision of: 1) training and support to school leader/leadership teams to implement a whole of school approach for students with ASD; 2) resources and materials to conduct assessments of school processes and individual student needs, develop action plans, and evaluate outcomes; and 3) external support for school leaders by ASD coaches/mentors who are knowledgeable in evidence-based practice and implementation of whole school model for students with ASD. Based on past research, it is anticipated that this approach will enable school communities to develop effective programs and strategies not just for students with ASD, but that benefit all students by providing high quality teaching and practices across the school.

The *Whole School Capacity Building model* is based on the principles of student-centred practice and addresses issues and needs cited by principals, teachers, and parents of children with ASD by providing school leaders and teachers with knowledge and understanding of ASD and evidence-based practice for students with ASD. Through the program, school leaders are guided to develop flexible processes, programs and options for students with ASD including a continuum of options for educational support and placement. School staff are supported to facilitate meaningful collaboration, communication, and contribution of families of students with ASD, and to create school environments that accommodate the unique needs of these students. School communities are also supported to provide ASD-specific curriculum including instruction and strategies to address transition needs of students. Finally school leaders and teachers are provided with training and materials to utilise data to assess achievement and outcomes for students with ASD in both academic and general capability areas.

The implementation of the whole school approach involves the following steps:

- Formation of school leadership team for students with ASD
- Develop shared vision statement for students with ASD and communicate with school community

- Conduct pre-assessment of current practices for school leaders against the evidence-base for students with ASD including:
 - Pre-assessment of targeted student skills
 - Pre-assessment of teacher knowledge and practice
- Identification of priorities for action at whole school (primary) level, classroom/targeted group (secondary) level, and individual (tertiary) level
- Create action plan formulated key objectives and outcomes for whole school processes, teachers and students including timeline, actions, and data to be collected for evaluation
- Identify target students and develop specific education plans to address key issues not addressed through whole school/classroom processes and develop goal attainment scale to collect data on outcomes.
- Conduct intermediate and final evaluation of processes repeating preliminary measures

Based on the findings of the pilot implementation of this model, it was also determined that future implementation of the whole school approach should include provision of initial professional development needed to be expanded to incorporate an initial 2-day workshop for the leadership team, a second 2-day workshop approximately two months into the implementation of the model and a final half day workshop to join together to share successes and troubleshoot challenges. In addition, the ongoing support for school leadership teams by an external coach/mentor/critical friend was identified as an essential component of the whole school approach. In addition, developing capacity of regional ASD “experts” to support schools and provide ongoing training and troubleshooting as needed would be an important feature of replication of the model. Finally, the development of regional coaches/mentors is critical building sustainable programs for students with ASD that are consistent across schools and as individual school leaders come and go.

Conclusion.

In conclusion, leadership teams derived from a school-wide, shared-leadership model can effectively implement a whole school approach for students with ASD and can improve educational outcomes for students with ASD. The role of the school principal is critical in establishing the ethos and vision for the school and in establishing a shared model of leadership and responsibility for students with ASD. Special education directors were also very positive about the impact of the model, but require the ongoing support of the school principal and guidance of an external coach, mentor, and critical friend to help prioritise their actions and collaboration with school staff regarding utilising evidence-based practice for students throughout the school. The roles of parents and classroom teachers in the school

leadership team, however, were less clearly defined and responses varied between schools regarding ways that parents and classroom teachers participated in the implementation of the model. Additional attention also needs to be concentrated on translating school-wide objectives and actions to impact and outcomes for teachers, students, and families.

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