The Sycamore School

Autism - Friendly Learning

THE SYCAMORE SCHOOL RESEARCH STRATEGY

2020-2024

Using evidence to support development, sustainable service delivery, and to improve student outcomes

We would like to acknowledge the Quandamooka people,
Traditional Custodians of the land on which the school is built and
pay our respects to their elders past and present.
We extend that respect to Aboriginal and Torres Strait Islander
peoples throughout Australia.

Forward

The Sycamore School's inaugural research strategy demonstrates our collective goal of improving the life outcomes for people on the autism spectrum. Although a young school, we are proud of our achievements in providing an accessible, inclusive education and program of specialist support that continues to have positive impacts on our students. The School's Strategic Plan 2019-2024 outlines our commitment to growing our community using evidence to guide our professional and operational decision making. To achieve our vision and mission we need to better understand the success of our program and to increase our capacity to measure, monitor and evaluate the program's impact on our young people.

Jodi Schmidt

The Sycamore School's Research Strategy 2020-2024 charts a course aimed at supporting staff to not only engage with using research but to also do research that will translate into the design and delivery of effective, outcome focused education and specialist support services. The strategy places a heavy emphasis on collaborations between staff, the autism community, and university research teams to increase the relevance, quality, and impact of autism education research and provides a set of guiding principles to support these research partnerships.

Through the release of this research strategy, I look forward to strengthened relationships between the research and School communities through the development of new working opportunities to identify and deliver effective practices that can change the life trajectories of young people living with autism.

Jodi Schmidt
Board Chair, ASD Learning Ltd

Introduction

The development of The Sycamore School's Research Strategy 2020-2024 (henceforth 'the Strategy') was stimulated by a conscious effort to engender a school culture that adopts impactful practices that are both validated and supported through research and evaluation. The Strategy is intended to encourage development of an outcome focused organisation; one that generates and uses research strategically to improve the life trajectories of people on the autism spectrum. The Strategy is designed to support the work of the School's staff in their establishment of The Sycamore School as a centre of excellence in autism education and support services. The Strategy values the School's collective knowledge on the education and support of its students and aims to engage its educators in continuous inquiry.

The purpose of the Strategy is to build School capacity in tracking student outcomes over time, and to ensure its education and support programs are comprehensive, effective and sustainable.

The Strategy achieves this through:

- **Participation in primary research** via partnerships with university researchers with the objective of developing and submitting competitive grant applications. These partnerships are guided by 5 priority research themes and a unique participatory, and mutually beneficial partnership model. Further to this, research higher degree and post-graduate students are also welcomed to undertake research projects affiliated with the 5 priority research themes.

- **Strategic school-based inquiry** encouraged and supported by development and adoption of a research and practice informed theory of change (ToC).[1]

The Strategy tightly aligns research activities to strategic priorities set out in The Sycamore School Strategic Plan 2019-2020[2] and incorporates guiding principles to support the School's engagement in and with research. The relationship between the School's strategic priorities, research themes and the development of a culture of inquiry and ongoing improvement is illustrated in Figure 1 below. Table 1 further articulates how the research themes assist in the realisation of the School's strategic priorities.

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[1] A ToC explains how a program of activities contribute to a series of results that lead to the achievement of desired outcomes. It is also a methodology to identify the data that needs to be collected, and how it should be analysed.

[2] https://www.thesycamoreschool.qld.edu.au/images/General_Docs/The_Sycamore_School_Strategic_Plan_Web.pdf

Statement
Engagement in and with research will build an evidence base to support the development of the School and the quality of its service delivery, thereby improving the achievement, growth and life trajectories of people on the autism spectrum.
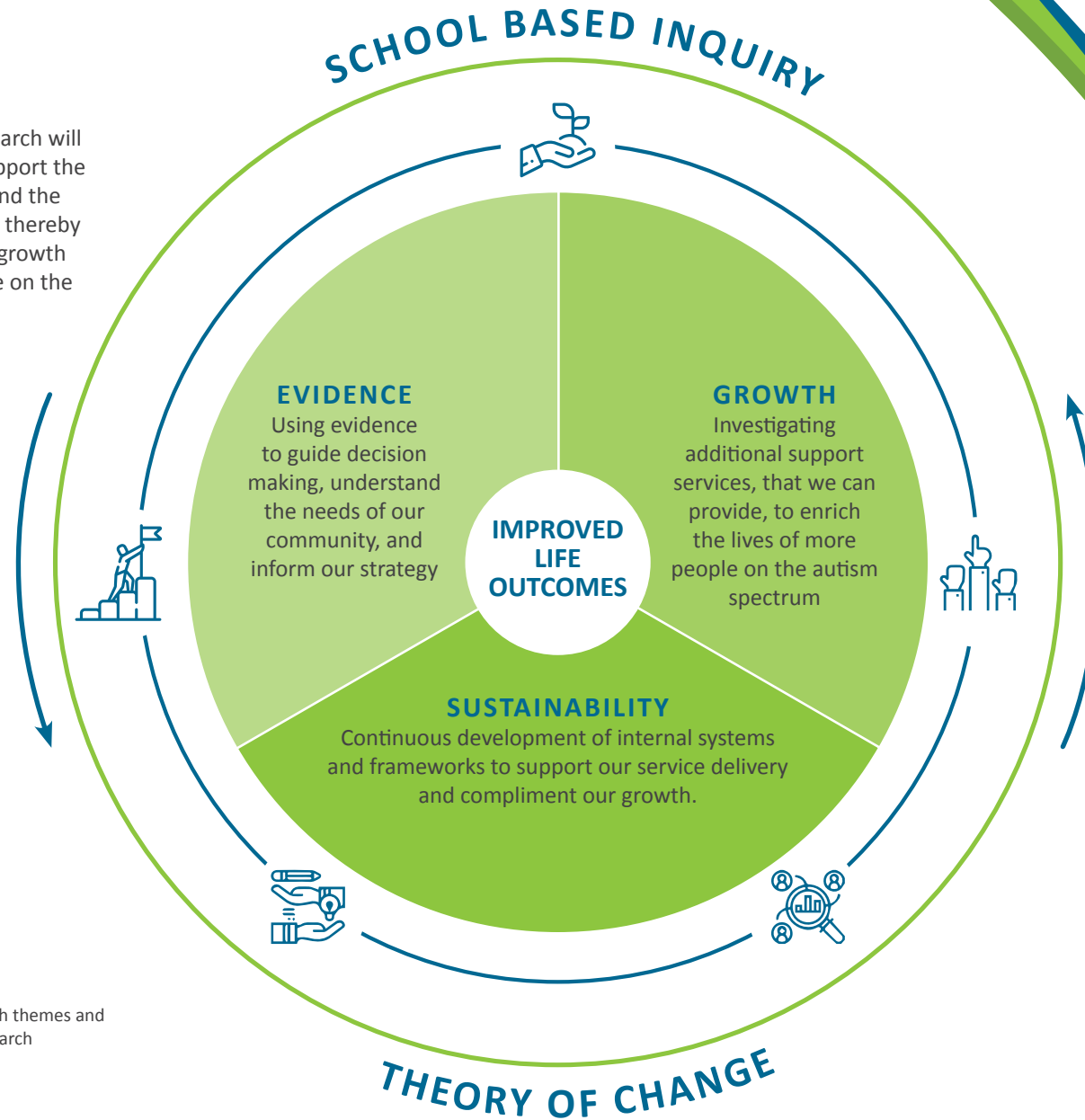

Figure 1: Strategic priorities, research themes and school engagement in and with research

SCHOOL BASED INQUIRY

EVIDENCE
Using evidence to guide decision making, understand the needs of our community, and inform our strategy

GROWTH
Investigating additional support services, that we can provide, to enrich the lives of more people on the autism spectrum

IMPROVED LIFE OUTCOMES

SUSTAINABILITY
Continuous development of internal systems and frameworks to support our service delivery and compliment our growth.

THEORY OF CHANGE

Strategic priorities	**Priority Research Themes** The School values research that investigates ways of:				
	Securing positive life outcomes for people on the autism spectrum	Ensuring access to learning environments that equip people on the autism spectrum with the social, emotional, and academic capacities to meet their goals and aspirations	Maintaining effective pedagogies, curriculums and assessment practices for students on the autism spectrum	Continuous knowledge and workforce development through research and inquiry	Redressing policy barriers for people on the autism spectrum accessing effective teaching, learning and support
Evidence - Using evidence to guide decision making, understand the needs of our community, and inform our strategy. **The School encourages and supports research that enables educators to:**					
1. better evidence the impact of their practices on the life outcomes of people on the autism spectrum.	✓	✓	✓	✓	✓
2. build an understanding of how, and why, program activities contribute to intended student outcomes.		✓	✓	✓	
Growth - Investigating additional support services, that we can provide, to enrich the lives of more people on the autism spectrum. **The School encourages and supports research that:**					
3. learns from and further develops the School's specialist support and education program to improve the life outcomes of students, alumni and graduates.	✓	✓	✓	✓	
4. contributes to the quality of the program provided by the School.			✓	✓	
Sustainability - Continuous development of internal systems and frameworks to support our service delivery and complement our growth. **The School encourages and supports research that enables educators to:**					
5. generate robust evidence of the success of the School's specialist support and education program.	✓	✓	✓	✓	✓
6. monitor and evaluate interventions or activities.	✓	✓	✓	✓	
7. engage with researchers to answer practice-based questions.	✓	✓	✓	✓	✓

Table 1: Realisation of strategic priorities via 5 research themes

Priority Research Themes

Priority Research Theme 1: Securing positive life outcomes for people on the autism spectrum

The School recognises that support and education programs for people on the autism spectrum should be individually designed and outcome focused. Without clearly identified outcomes, there is no means to measure the success of personalised supports over time, or to evaluate the effectiveness or contributions of school supports, activities, or interventions. The research strategy will assist the School to identify meaningful short-, intermediate-, and long-term outcomes (and indicators) of schooling for people on the autism spectrum. Anticipated benefits for the School from research undertaken in theme 1 include increased capacity to:

- measure and monitor student progress towards these outcomes and proactively intervene when necessary;

- monitor and evaluate existing and new programs or practices; and

- demonstrate the efficacy and impact of the School's program of education and support.

Priority Research Questions

- What are the goals and aspirations of students on the autism spectrum, are they aligned with the goals and aspirations held by their families and communities, and how do these change with age, or vary across the spectrum?
  - o Can the goals and aspirations held by these different stakeholders translate to achievable, measurable, and accessible outcomes?

- In what ways do different stakeholders view short-, intermediate-, and long-term outcomes of schooling?
  - o How can we meaningfully measure the short-, intermediate-, and long-term outcomes of schooling for students on the autism spectrum?

- How do we know when a student is on track to reach identified outcomes?
  - o What actions need to be taken when students are not on track to achieve short-, and intermediate outcomes?

- How can an outcome evaluation framework inform development of a meaningful evidence base to i) track student achievement, and/or ii) determine the success of support and education programs on the outcomes of people on the autism spectrum?

Small Project Topics

- Identifying autism friendly curriculum and assessment frameworks that have enough flexibility to enable strong contextual relevance for student engagement, academic achievement, and developmental growth.

- A study on effective assessment design to monitor the progress of students on the autism spectrum.

- An investigation into the impact of dual curriculum delivery to students on the autism spectrum on their academic outcomes, and/or post-school options.

- A critical review of meaningful education measurement systems or frameworks that track the long-term outcomes of children or young people on the autism spectrum.

Priority Research Theme 2: Ensuring access to learning environments that equip people on the autism spectrum with the social, emotional, and academic capacities to meet their goals and aspirations

To achieve positive futures for people on the autism spectrum, the School adopts a schoolwide strengths-based approach aimed at achieving academic outcomes, as well as social, emotional and behavioural goals. To better understand the dynamics, consequences, and impacts of an ambitious, integrated approach to the education of people on the autism spectrum, the School encourages multidisciplinary research to investigate:

- how a purposeful curriculum system and resourcing for supportive learning environments enable student development and learning; and

- the school conditions necessary for people on the autism spectrum, their families, and school staff, to flourish.

Priority Research Questions

- How do schools establish programs that create cultures of learning as well as positive social, emotional, and behavioural functioning across students on the autism spectrum?
  - o What are the essential environmental or cultural elements required of a school to implement a program of support and education that integrates social, emotional and behavioural development with academic learning?
  - o What are the best indicators of success for schools supporting the social, emotional, behavioural and academic development of students on the autism spectrum?
  - o What structures and supports are necessary to ensure school staff have capacity to manage, instruct, and engage students on the autism spectrum?

- What is the impact of an integrated school program that supports students on the autism spectrum's social, emotional, behavioural and academic development on post-school transitions?
  - o What are the important social, emotional, behavioural and academic windows for developing the skills and competencies necessary for successful post-school transition of people on the autism spectrum?

- What social, emotional, behavioural, and academic developmental markers are linked to the post-school transition of people on the autism spectrum?
  - o Are there thresholds, or turning points, that are reliably linked to specific types of intermediate- or long-term outcomes?
  - o Are there essential developmental markers that represent important opportunities for intervention?
  - o What are the implications of these markers for strengths-based, secondary school curriculum development?

Small project topics
- A critical review of the type of curriculum, or combination of curriculums that best supports the post-school outcomes desired by people on the autism spectrum.

- Investigation of the link between anxiety in students on the autism spectrum and their engagement in learning, or behavioural self-regulation.

- A case study of the management of student anxiety in autism friendly classrooms.

- The impact or influence of explicit teaching of communication, social interaction, adaptive behaviour, sensory and information processing on:
  - o the teaching of the Australian Curriculum.
  - o student academic outcomes.
  - o student learning identities.
  - o teacher attitudes, beliefs or professional identities.

Priority Research Theme 3: Maintaining effective pedagogies, curriculums and assessment practices for students on the autism spectrum

The School promotes a holistic approach to teaching and learning with the objective of enabling students on the autism spectrum to access and master the Australian Curriculum. We support the explicit teaching of communication, social interaction, adaptive behaviour, sensory and information processing skills as a necessary precondition for successful engagement with the curriculum. However, very little is known about the effects of education programs and supports on academic achievement of students on the autism spectrum and there are ongoing debates as to what is required of teachers for autistic students to learn.

Research undertaken within this theme will assist the School in identifying:
- curriculum and assessment practices that will enable meaningful monitoring and measurement of student growth.

- research rich, effective pedagogies.

- ways to effectively integrate the School's Respect the Spectrum and Australian Curriculum frameworks; and

- strengths-based curriculum initiatives to better support positive post-school outcomes.

Priority Research Questions
- What measurement, monitoring and reporting system meaningfully communicates the academic and development growth of students on the autism spectrum over time?
  - o What is required of teachers to meaningfully measure skills and interpret data in order to modify the curriculum and to assess progress over time?
  - o What assessment practices are necessary for i) educators to identify the effectiveness of their instructional strategies, and ii) for students on the autism spectrum to demonstrate their mastery of the Australian Curriculum as well as their developmental growth?

  - o What is required of data collection systems to track and/or integrate students' level of skills, knowledge and understanding across multiple dimensions (e.g. academic, social, emotional, behavioural)?
  - o How can schools utilise this system to meaningfully demonstrate the efficacy of their education and support programs?

- What pedagogical practices produce meaningful academic and developmental outcomes for people on the autism spectrum?
  - o What is the impact of these practices on the level of student engagement in learning and/or their academic outcomes?
  - o How do effective educators meet the challenge of teaching students on the autism spectrum who have complex learning profiles?
  - o What structures, resources and supports are required of a school to support effective and productive pedagogies for students on the autism spectrum?

- In what ways does a comprehensive, programmatic framework for students on the autism spectrum assist educators in their navigation of mandated and person-centred, strengths-based approaches to the delivery of curriculum?
  - o What is the impact on the design of learning and assessment tasks and their implementation?
  - o What is the impact on student's engagement in learning, or across different curricular areas?
  - o What impact does this have over time on the academic outcomes and the development of cognitive, social interaction, communication, adaptive behaviour, sensory and information processing skills in people on the autism spectrum?

Small Project Topics

- An analysis of the effectiveness of autism friendly instructional strategies in improving students' skills or mastery of core academic content areas (i.e. literacy, mathematics, science and social studies).

- Investigation of the impact of individual, developmental profiles of people on the autism spectrum on educators planning and delivery of the Australian Curriculum.

- The impact of access to academically related curricular areas (e.g. the arts, physical and health education, foreign languages, environmental studies etc.) on:
  - o the development of cognitive, social interaction, communication, adaptive behaviour, sensory or information processing skills;
  - o student engagement in schooling; and/or
  - o the pursuit of post-secondary pathways for students on the autism spectrum.

- Investigation of the relationship between student receipt of broad and relevant curriculums and post-school options or outcomes for people on the autism spectrum.

- A critical comparison of approaches currently used to facilitate access to an academic curriculum (e.g. accommodations, modifications, UDL, assistive technology) and The Sycamore School's Respect the Spectrum approach to curriculum delivery.
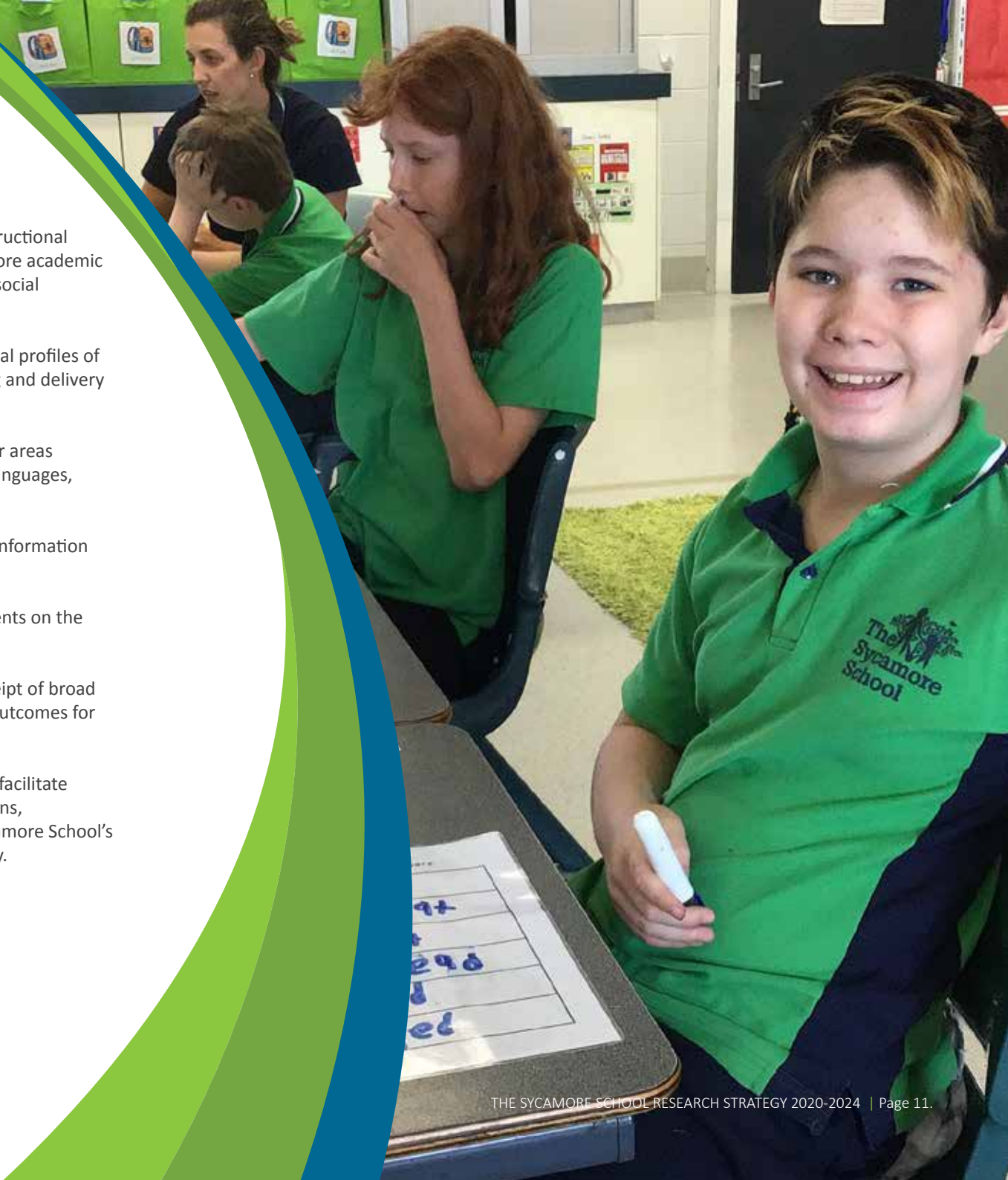
Priority Research Theme 4: Continuous knowledge and workforce development through research and inquiry

There is increasing pressure for schools to adopt evidence-based practices to improve student outcomes, despite a well-recognised research-to-practice gap in the field of autism studies.[3]

The fourth research theme is directed at advancing excellence in autism research and evaluation by encouraging research that investigates the impact of research engagement on school improvement efforts, professional development, or student outcomes. This will enable the School to determine the impact of its research strategy on:

- student outcomes;
- operations; and
- organisational learning.

Priority Research Questions

- In what ways do collaborative partnerships between universities and schools benefit the learning, social and behavioural outcomes of students on the autism spectrum?
  - o Where are the challenges and opportunities for the partnerships and how could these be overcome or capitalised on?

- How do school collaborations with university researchers improve the design, delivery and refinement of interventions or programs for students on the autism spectrum?
  - o What is the impact of these research-practice partnerships on the outcomes of students on the autism spectrum?

- What is the value of an outcome-based framework for developing and managing effective research-practice partnerships?
  - o To what extent does this facilitate the uptake, monitoring and evaluation of evidence-based practices?
  - o To what extent does this enhance or facilitate school improvement efforts?

Small Project Topics

- A case study of the development, implementation and impact of data teams on the professional learning of staff in an autism friendly school.

- A comparative analysis of the types of professional collaborations occurring in an autism friendly school and their links to professional learning and/or student academic and developmental growth.

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[3] Carrington, S.J.& Uljarević, M. et al. (2016). Knowledge acquisition and research evidence in autism. *Research in Developmental Disabilities*, 51-52, 126-134.
Parson, S. & Charmen, T. (2013). Commentary-bridging the research and practice gap in autism. *Autism*, 17, 3, 268-280.

Priority Research Theme 5: Redressing policy barriers for people on the autism spectrum accessing effective teaching, learning and support

The access of people with disabilities to education and learning continues to be plagued by systemic barriers to equitable participation in schooling.[4] Theme 5 encourages research that will contribute to the School's advocacy of fair and equitable access to quality education for children and young people on the autism spectrum.
Insights gained from this theme will:

- support the School's policy advocacy efforts; and

- assist the School in its navigation of federal and state funding changes.

Priority Research Questions
- What federal and state policies have the greatest impact on the educational, social, emotional, and behavioural outcomes for people on the autism spectrum and their families?
  - Where are the policy gaps in the delivery of effective teaching, learning and holistic support to children and young people on the autism spectrum?

- What is the impact of federal and state funding models on the delivery of support and education programs to people on the autism spectrum?
  - To what extent do current funding models limit or facilitate access to effective teaching, learning and support?
  - What are the projected long-term implications of these funding models on post-school outcomes?
  - How do schools mitigate the risk of the removal of funds due to improvements in student performance?
 - How do the current funding models impact school reporting of support activities and student outcomes?

- What reporting systems are required of schools to meaningfully link resources and activities to the outcomes of students on the autism spectrum over time?

- What funding model would best support meaningful performance reporting of school activities and growth in student achievement?

Small Project Topics
- A case study of the impact of a no-exclusion school policy on the social, emotional, behavioural and academic growth of students on the autism spectrum, or on educators and their practices.

- Analysis and simulation modelling of government funding to independent schools' delivery of education and support programs to students on the autism spectrum.

[4] Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability (30 October 2019). Education and Learning Issues Paper, accessed
https://disability.royalcommission.gov.au/publications/Documents/education-learning-issues-paper.pdf
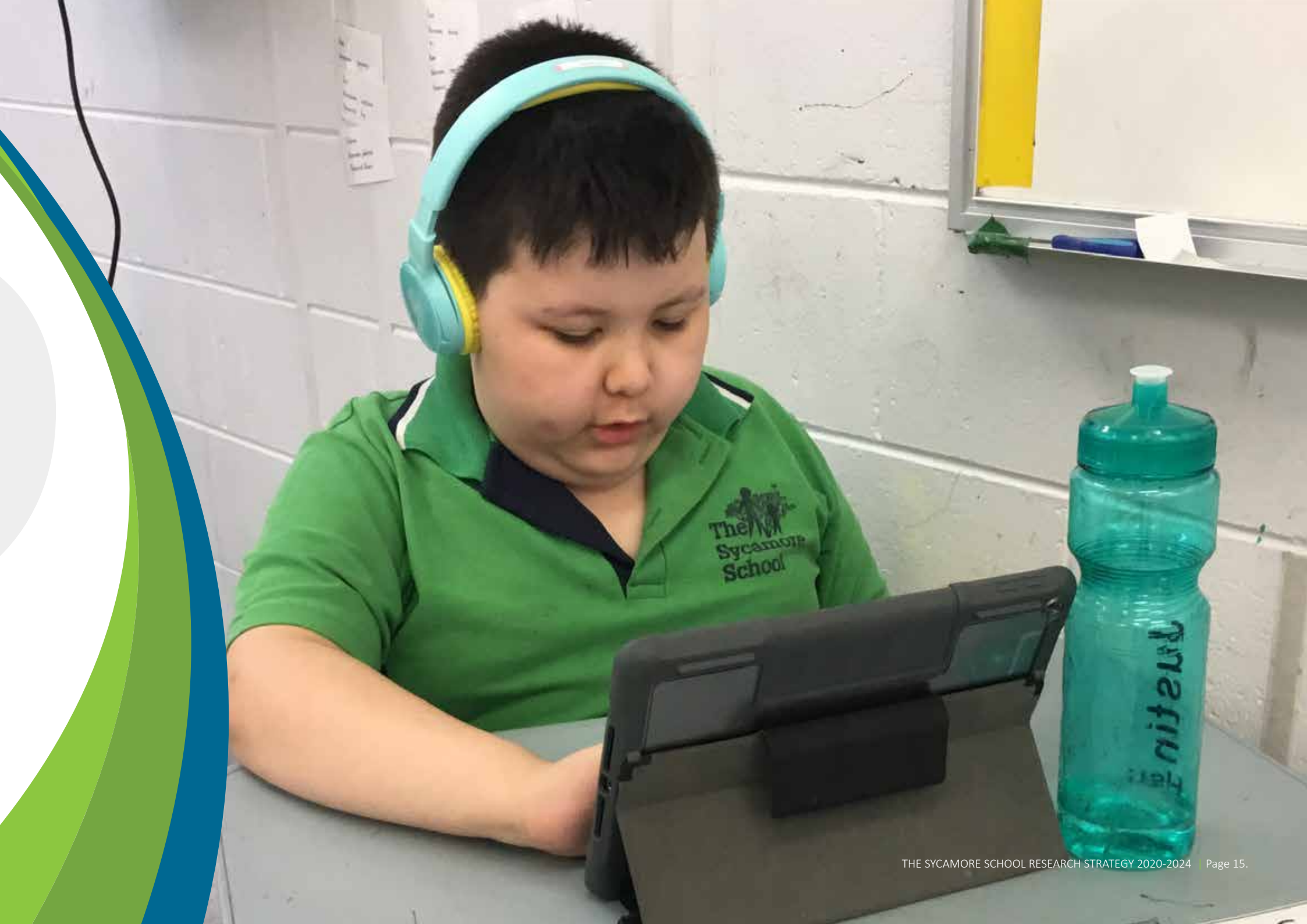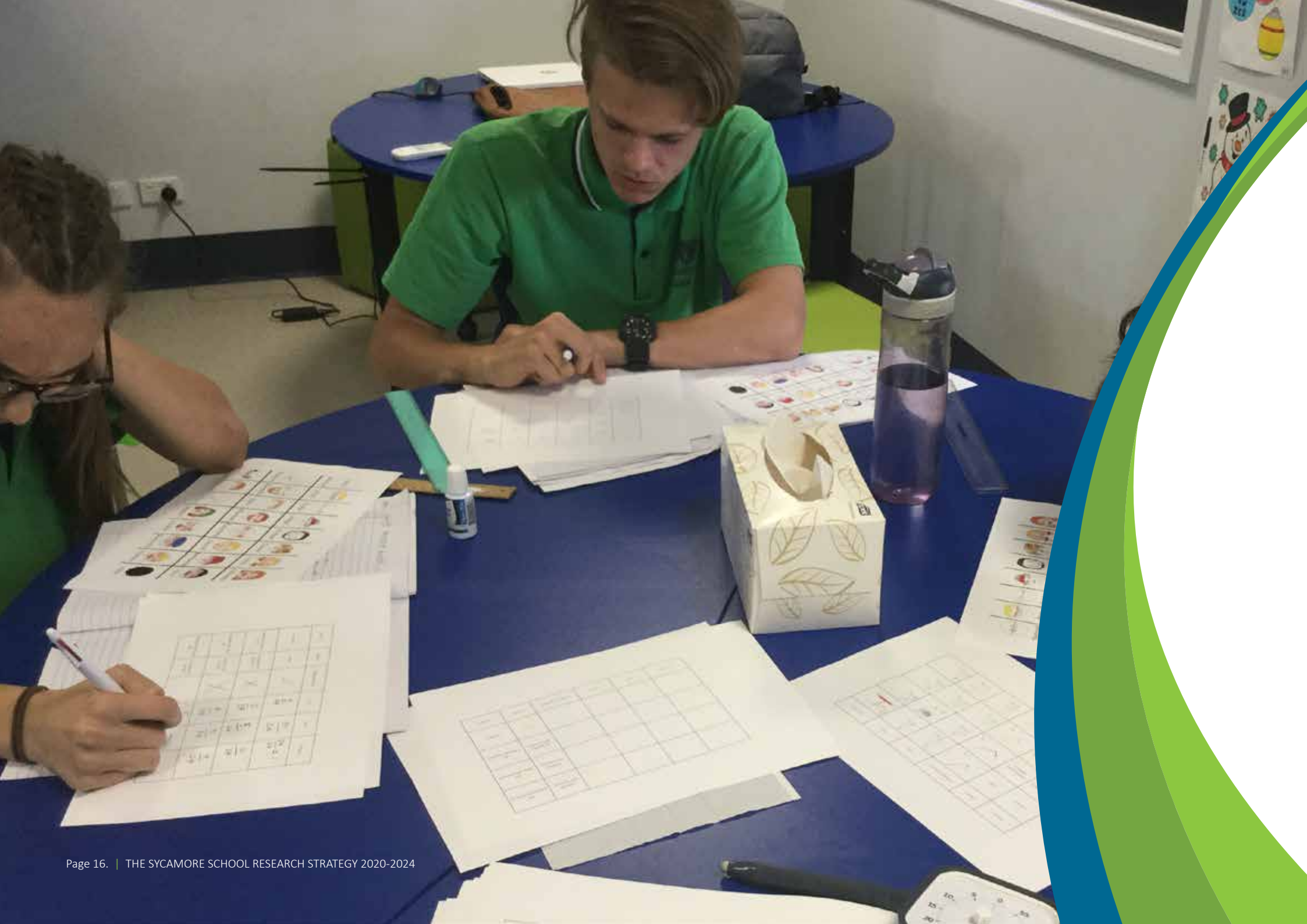
A Participatory University Partnering Model

To navigate the research-to-practice gap and to better understand the intricacies of practice and student outcomes, the School will partner with universities to look beyond the immediacy of a single project to a program of practice-informed research, and to support school based inquiry via a ToC. The aim of the partnerships is to build the capacity of both researchers and school staff to design and implement effective practices, and to develop monitoring and evaluation systems with the objectives of i) informing school development, ii) maintaining and developing professional practice, and iii) tracking the implementation and impact of research undertaken with the school. This is a unique approach to the engagement of schools in and with autism research.

The School promotes a participatory approach to autism research with the objective of contributing to research activities and research insights that are both rigorous and relevant to both the autism community and the organisation itself. This approach is guided by international best practice frameworks for participatory autism research[2] and structured to accommodate competitive grant schemes (e.g. the Australian Research Council's Linkage Program). Partnerships with universities will be established with the goal of developing and submitting a competitive grant application over the course of 12-18 months.

To demonstrate a track-record of genuine and meaningful collaborations, the partnership will identify, and then project-plan seed funding opportunities to undertake mini-projects to support incremental development of the ToC, and to demonstrate the proposed project's proof of concept.

It is anticipated this partnering model will:

- produce strong, rigorous and relevant research funding applications that if successful, would resource 3 years of research and development activity in the School.

- ensure co-designed projects undergo review by an independent, registered Human Research and Ethics Committee.

- sustain long-term, collaborative, and strategic partnerships with universities that will enable the combining of resources that lead to meaningful benefits of people on the autism spectrum.

- potentially establish strategic social impact partnerships with philanthropic foundations and/or corporations.

- provide research training to School staff and build the capacity of researchers to engage effectively with the autism community.

- generate research that will directly benefit the School and its community.

- expand professional networks and relationships for staff and the executive; and

- provide the necessary framework for School staff to contribute to the production and co-production of new knowledge of effective practices for the support and education of people on the autism spectrum.

2   https://www.shapingautismresearch.co.uk

Guiding Principles

Principles to guide research engagement

To ensure engagement in and with research, the following interconnected principles underpin the implementation of the research strategy and are aligned to the School's values set out in the 2019-2024 strategic plan.[6]

A shared objective We face our challenges with conviction	To provide opportunity for educators to engage in systematic reflection (i.e. to learn from successes and failures) in order to improve outcomes for people on the autism spectrum, and to increase research and evaluation literacy through critical friendships.
Reflective and collaborative professional learning We think outside the box	To provide opportunity for educators to gain a deeper understanding of a research knowledge base, research processes, and to receive support for developing relevant and tested solutions to practice challenges.
Practice-based knowledge is combined with research-based knowledge to create new knowledge and practices We think outside the box	To provide opportunity for researchers and educators to share knowledge with the aim of developing new knowledge (concepts, ideas) and practices (e.g. interventions, instructional strategies or curricula) that will improve outcomes for people on the autism spectrum.
Key people participate and lead change We are selfless and giving	Key School stakeholders participate in the planning and execution of research projects, and in discussion of research outcomes to i) ensure alignment to School needs, and ii) to support uptake of research learnings.
Explicit theories of action when proposing changes in day-to-day practices We value uniqueness and we think outside the box	Researchers and School staff engage in constructive dialogue on the value of new ideas for improving practice through 4 steps:[2] 1. Joint agreement on the problem to be solved and hoped for outcomes of the research. 2. Revelation of the values, beliefs and rationale behind current practices (the theory of action). 3. Evaluation of the relative merit of the current and alternative theories of action. 4. If required, implementation of a new, sufficiently agreed upon theory of action to achieve improvement in outcomes.
Critical friendships are valued We value all perspectives	Researchers provide input and support for School staff to steer learning and improvement ideas in useful ways.
Innovation involves ongoing trial and refinement We accept that all things happen in their own time	Researchers and School staff collaborate in cycles of inquiry to develop: an understanding of teaching and learning issues; research-informed approaches to practice improvement and how they may be trialled; and refinement of these approaches over time.
The School and its research community support and challenge each other We value all perspectives and we face our challenges with conviction	Collaborative learning between researchers and School staff in the planning, execution, and development of research outcomes fosters a culture of trust, reciprocal support, and engagement with broader ideas and opportunities that extends beyond the term of the initial project.

[6] Adapted from key principles identified by Godfrey, D. & Brown, C. (2019). Innovative models that bridge the research to practice divide: Research learning communities and research-informed peer review. In D. Godfrey and C. Brown (eds) *An Ecosystem for Research Engaged Schools*, London: Routledge.

[2] Adapted from Robinson, V. (2017). *Reduce Change to Increase Improvement*. Thousand Oaks, CA: Corwin

Principles to Guide Research

The following principles articulate expectations of research designs.[1]

Rigour, relevance, and precision	Research begins with transparent project designs that i) apply appropriate research tools to meet the stated objectives of an investigation, and ii) respond to real-world, practice-based issues in a timely manner, adopting terminology that is precise and specific to ensure all stakeholders hold a common and shared understanding of core ideas and concepts.
Measurement	Research focused on the identification of measurement or assessment tools support the use of data for continuous improvement, capacity building, and only community and professional accountabilities (i.e. measurement does not become high stakes).
Theory of change or project blueprint	Researchers and practitioners have a common, agreed upon plan for action through an explicit theory on what, how, and why a strategy, intervention, or program will work.
Explanation	Research illuminates the active ingredients, and how and why effective programs, strategies and interventions work, as well as any variations across a group of students, to better support the implementation and uptake of programs, strategies and interventions.
Sustainability	Research contributes or supports both structures (e.g. curriculum material, professional learning, assessment tools) and processes (e.g. collaboration, critical friendships) to effect meaningful change.

[1] Adapted from Jones, S., Farrington, A, Jagers, R. et al. (2019). *National Commission on social, emotional, and academic development: A research agenda for the next generation.*
Retrieved from the Aspen Institute website: http://nationathope.org/research-practice-and-policy-agendas/research/

Further Information

Further details on applying to conduct research or to partner with the School can be accessed via the School's website
https://www.thesycamoreschool.qld.edu.au/research
or by emailing research@sycamore.qld.edu.au

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