Australian Journal of Teacher Education

Volume 41 | Issue 9 Article 2

2016

The Bridges and Barriers Model of Support for High-Functioning Students with ASD in Mainstream Schools

Wendy Holcombe
Monash University, w.holcombe@federation.edu.au

Margaret Plunkett
Federation University Australia, margaret.plunkett@federation.edu.au

The Bridges and Barriers Model of Support for High-Functioning Students with ASD in Mainstream Schools

Wendy Holcombe
Margaret Plunkett
Federation University Australia

Abstract: National statistics indicate the ongoing challenge of catering for the unique needs of students with Autism Spectrum Disorder (ASD) within the context of inclusive education. Higher rates of difficulty and poorer outcomes are experienced by this cohort when compared to both the general population and others within the disability sector. The perspectives of educators from a variety of roles were examined to identify factors impacting upon the educational experience of high-functioning students with ASD to determine how they could be supported more effectively. Findings indicate despite extensive educational experience and considerable knowledge of ASD, many educators lack an understanding of how to identify individual student needs, and also of specific impacts of ASD and appropriate supportive strategies. Emerging from the data, the Bridges and Barriers Model of Support (BBMS) provides inclusive school communities with a framework for planning a shared understanding of student strengths, identified challenges, supportive strategies and specific targets for success.

Introduction

Rising prevalence rates of Autism Spectrum Disorder (ASD) and falling national outcome statistics identify students with ASD as a cohort at risk. Current support approaches are failing to adequately meet the needs of these students in a manner that provides them with equitable educational outcomes. New, holistic conceptualisations of support within an inclusive approach to educational provision are required to create a framework for deeper understanding of individuals so their unique learning needs can be addressed.

The Challenge for Educators

Autism Spectrum Disorder is diagnosed through observable patterns and anomalies in behaviour and is associated with a number of cognitive theories. It is known to have neurological origins (Just & Pelphrey, 2013), and genetic connections (Kim & Leventhal, 2015), and yet there is still no clear understanding of exactly what it is, only what it does. The challenge for educators is that 'what it does' is different for every individual, and the impacts on behaviour can vary from day to day. Without a definitive understanding of the condition, knowledge of ASD in education has been built on shaky foundations.

The challenge is complicated by the sporadic evidence-base of effective support strategies for students with ASD. As illustrated by the work of Wong et al. (2014), gaps exist in the evidence of efficacy of support practices such as social narratives, visual supports,

scripting and prompting, yet many educators use them as a universal tool for addressing the needs of students with ASD; whether they are well matched or well designed to address identified barriers is not always considered. The student experience of misguided supports may differ considerably from the intention of the educator, yet it is their experience that determines the outcomes emerging through personal transformations.

Support Beyond Funding

This study was conducted within the Victorian public education system where additional resourcing to facilitate support for students with ASD via the Program for Students with Disabilities (PSD) is typically only available if they have a dual diagnosis of intellectual impairment and also significant speech/language difficulties. The expectation that schools have the resources and capacity to meet the educational needs of diverse learners is contingent upon their capacity to recognise, understand and accommodate unique individuals within a cohort of diverse learners.

The Bridges and Barriers Model of Support (BBMS, see Fig.1) was created as part of the analysis of data within a larger study seeking to identifying ways of facilitating educator understanding of high-functioning students with ASD (Holcombe, 2015). The term high-functioning is used in this instance as a descriptor of students with ASD who also have average to above average intellectual capabilities. It is not a diagnostic term.

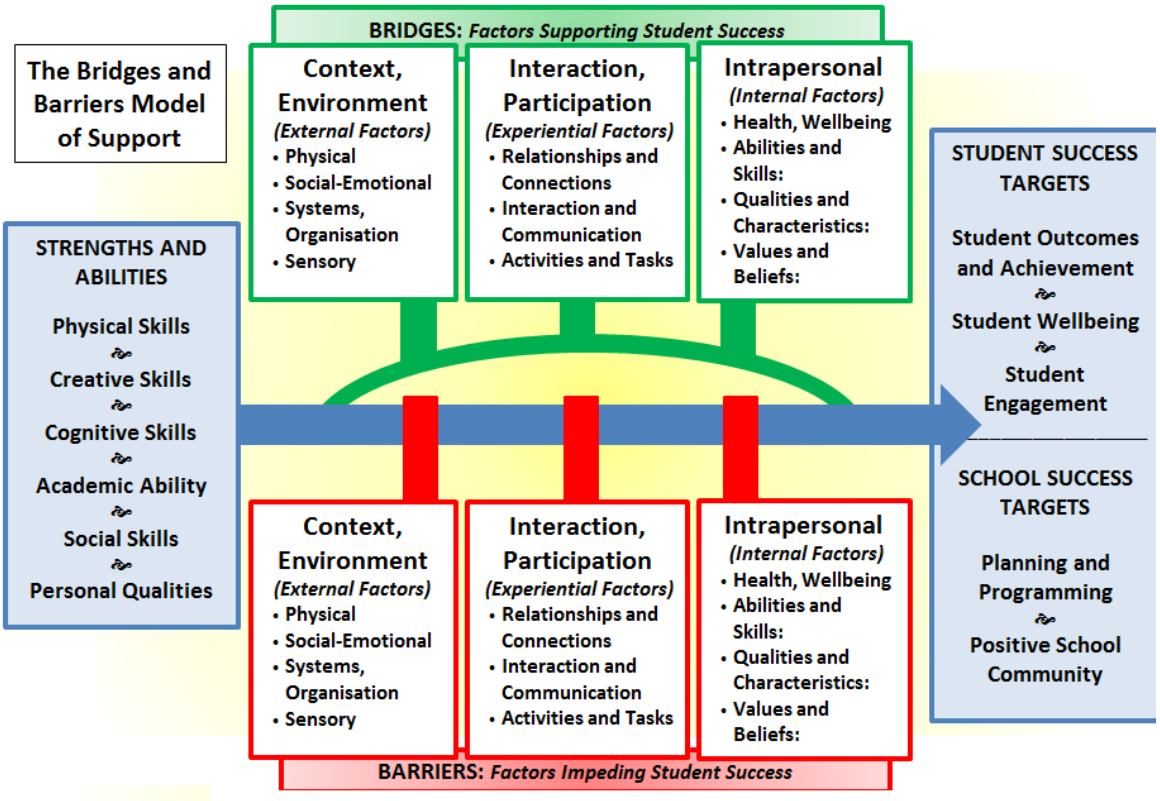

Figure 1: The Bridges and Barriers Model of Support (BBMS)

During the coding of qualitative responses to survey questions regarding student strengths, challenging experiences, successful approaches and the nature of supports implemented in schools, patterns within the emerging themes were noticed that aligned with elements of Gagne's Differentiated Model of Giftedness and Talent, DMGT 2.0 (Gagné, 2013). This model provided a reliable pathway framework for connecting factors of support

and challenge described by educators in their observations of a focus student they had identified as having both a diagnosis of ASD and an average to above average IQ.

Gagné's (2013) model proposes a pathway from potential to performance via developmental processes that are impacted by a variety of catalysts within environmental contexts. The BBMS recognises that individuals can experience varying degrees of benefit and challenge as a result of their personal attributes, interactions with catalysts and experience of environmental contexts. These factors impact upon potential, (represented by strengths), and may hinder or enhance the likelihood of successful outcomes. The BBMS personalised planning process can assist educators to address barriers at individual, social and environmental levels to improve educational performance through a strength-based approach. Long-term focus is provided within the model by the inclusion of targets for student, staff and whole school success.

ASD and Education

ASD is a complex, lifelong condition, which emerges as a result of varying degrees of neurological difference or dysfunction (DSM 5, 2013; Hendrickx, 2010; Just & Pelphrey, 2013). Positioned within an evolving field of exploration and knowledge (Amaral, 2011), ASD is characterised by an uneven developmental profile and a pattern of qualitative impairments in communication and socialisation, accompanied by a limited range of interests and activities (Baron-Cohen, 2008; Wing, 1997). Sensory anomalies have now been confirmed as another common characteristic of the condition, appearing in the latest edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM 5, 2013), for the first time.

As a result of these neurodevelopmental challenges a discrepancy between potential and performance is commonly observed within the cohort of high-functioning students with ASD; despite average to above average capabilities, many struggle to find academic success. In 2009, the Australian Bureau of Statistics (ABS) released figures suggesting as few as 12% of students with ASD, including those with high-functioning capabilities, attended school without experiencing any educational restrictions; by 2012, this figure had dropped to 5% (ABS, 2011, 2015). In the same timeframe the number of students unable to attend school because of their disability doubled from 3% to 6%.

Of those attending school, 86% reported experiencing difficulties, predominantly within the areas of communication, fitting in socially and learning (ABS, 2015). As these challenges reflect impacts of core aspects of the disability, (communication, social interaction and cognition), it appears that educational institutions require a greater depth of understanding and insight in order to make appropriate and reasonable adjustments for this cohort of students.

This article explores the elements of the BBMS and its potential as a framework for understanding ASD support and more specifically, as an informative planning and profiling tool for inclusive educators. The focus on universal barriers rather than specific ASD characteristics also ensures this model maintains relevance for use with any student, with or without a diagnosis.

Literature Review

Much of what was historically believed about ASD has been modified and revisited in the past 15-20 years as new research challenges and refines global understanding (Cashin &

Barker, 2009). Within this changing landscape, caution must be taken when reviewing and comparing the literature to ensure findings are relevant to current understandings of ASD. As "high-functioning" is an attribute of some individuals with ASD, not part of the diagnosis, within this review the term ASD is inclusive of all presentations of the condition unless otherwise stated.

Prevalence

Examining prevalence studies assists in framing the significance of ASD and provides insight into factors that contribute to perceptions of the condition. Significant variation exists in prevalence rates around the world; Australia – 1 in 100 (AAB-ASD, 2012), United Kingdom – 1 in 86 (Baird et al., 2006), South Korea – 1 in 38 (Kim et al., 2011), China – 1 in 360 (Huang et al., 2014). Since the year 2000, figures recorded in the USA have more than doubled, increasing from 1 in 150 children to 1 in 68 (CDC, 2013) and trends suggest a steady worldwide increase in diagnosed cases (Croen, Grether, Hoogstrate, & Selvin, 2002; Ouellette-Kuntz et al., 2014; Parner et al., 2011; Sun & Allison, 2010).

The global variation in prevalence rates has been attributed to an incredible range of factors which illustrates the limitations around understanding of the condition. Amongst these theories are cultural differences (Norbury & Sparks, 2013), nutrition (Neggers, 2014), genetics (Bailey et al., 1995), environment (Landrigan, 2010), and among those on the fringes, meat consumption (Pisula & Pisula, 2014) and oral contraceptive use (Strifert, 2014). Leonard et al. (2010) argue that changing diagnostic criteria and practises, diagnosis-driven funding and community acceptance have influenced identification of individuals with ASD, and that factors such as nomenclature, age at diagnosis, general awareness and socio-cultural influences contribute to the rising trend. Regardless of the cause, the challenge for educators is clearly on the increase.

Cognitive Theories of ASD

In conjunction with rising numbers, the complexity of ASD from an educational perspective is further complicated by the unseen impacts of brain functioning and cognitive differences. Research has produced a number of cognitive theories associated with the condition, each providing part of the picture but none yet able to provide definitive answers.

Theory of Mind (ToM), relates to the ability to understand the thoughts and feelings of others in order to interpret their intentions, beliefs, desires and emotional states (Baron-Cohen, Leslie, & Frith, 1985). Difficulty in understanding the motives and intentions of others is often the catalyst for increased anxiety (Bradshaw, 2012) and underpins many challenges in the school environment (AAWA Inc, 2007) for this cohort of students.

Frith and Happé (1994) describe the theory of Weak Central Coherence (WCC) as a bias in information processing toward local details rather than global meaning. Additional studies have found individuals with ASD were able to complete central coherence tasks more effectively when explicit guidance was given, confirming the likelihood of this weakness being a bias rather than a deficit (Booth & Happe, 2010; Frith & Happe, 2006). This highlights the possibility of WCC being a barrier that can be minimised with the appropriate support structures in place.

Executive Function (EF) is also impacted by ASD. Within typical brain functioning working memory, impulse control, planning, organisation, processing speed, logic, reasoning, comprehension and attention are continuously managed and coordinated to enable effective execution of the complexities of thoughts, behaviour and sensory integration. Individuals with ASD experience varying degrees of difficulty in the coordination of these brain

functions (Frith & Hill, 2003), resulting in many of the challenges often associated with ASD (e.g. forgetfulness, misunderstanding, difficulty switching focus, preference for routines, inappropriate speech). Hill (2004) acknowledges that contradictions, inconsistent results and a lack of universality are associated with the theory, suggesting further study is needed to explore links between brain function and behaviour.

Recent trends in ASD research are focused on the biology and neurology of the brain. For example, in a study by Just, Cherkassy, Keller, and Minshew (2004), magnetic resonance imaging was used to explore brain activity and comprehension functionality, identifying a pattern of reduced functioning within the integrative circuitry of the brain of high-functioning individuals with a diagnosis of ASD. They suggest this limited connectivity underpins the cognitive, perceptual and motor difficulties observed in the behaviour of individuals with ASD.

Aspects of overconnectivity have also been explored. One such study by Courchesne and Pierce (2005) proposed the possibility of local overconnectivity in the frontal cortex, linking this notion with the pattern of brain overgrowth often found in this region of the brain of individuals with ASD. It is suggested that excitability in the frontal lobe, coupled with impaired connectivity between this and other regions of the brain provides the complexities of feedback and guidance that produces the unusual developmental patterns common in ASD (Courchesne & Pierce, 2005).

The theory of Singular Attention and Associated Cognition in Autism (SAACA) (Lawson, 2011) is based on the concept of a monotropic sensory system in individuals with ASD as opposed to the more typical polytropic system. Lawson (2011) proposes that individuals with ASD have singular channels for accessing and processing sensory information, generating an intense focus of attention, whereas those without ASD have the capacity to simultaneously access and process sensory information through multiple channels, allowing for a broader division of attention.

Understanding the cognitive influences beneath thoughts, behaviour and experience is a critical element in understanding the individual. In reference to the coping mechanisms and functioning of the boys in his study group, Asperger (1944, as cited in Stevens, 2011) observed that many could overcome their challenges by utilising the strength of their intellect. It follows that a deeper understanding of the challenges faced by their students, and an appreciation of their strengths, preferences and skills may also assist educators to identify effective supports.

Twice-Exceptionality: Gifted Students with ASD

The coexistence of high intelligence and the inability to communicate effectively is one of the enduring puzzles of ASD (Frith & Hill, 2003) and is often misunderstood in school environments. High-functioning individuals with ASD share a number of characteristics with gifted individuals such as verbal fluency, intense passions, excellent memories, incessant questioning and sensory hypersensitivity, (Neihart, 2003), so it can be particularly challenging to identify the underlying influences on student behaviour and development within this cohort. In order to be considered gifted in terms of intellect an individual must register a full scale IQ of 120 or higher. Problems arise when abilities and potential are overlooked because of assumptions made about diagnosed disabilities, or when difficulties are discounted because of high achievement in other areas (McCoach, Kehle, Bray, & Seigle, 2001). It is possible that teachers may see strengths or deficits but fail to see both simultaneously (Assouline, Foley Nicpon, & Huber, 2006).

Twice-exceptionality, (gifted and disabled), creates additional challenges for individuals in terms of acquiring an appropriate education; heightened psychological, social-

emotional and academic risk (Bianco, Carothers, & Smiley, 2009; Wood & Estrada-Hernandez, 2009), high dropout rates (Hansen & Toso, 2007), the lure and misuse of technology (Hunter, 2009), and complex social difficulties (Assouline, Foley Nicpon, & Doobay, 2009; Cash, 1999).

Evidence-Based Practices for Students with ASD

A meta-analysis and review of ASD literature conducted by Wong et al. (2014), established a list of 27 effective evidence-based intervention practices for children, youth and young adults with ASD and cross-referenced them with outcome domains. More than 29,000 studies were screened under rigorous protocols, to identify practices with evidence of efficacy in the support of *some students*, for *some purposes*, in *some circumstances*, at *some stages* of their lives. It was noted that even with the volume of research reviewed, the complexity of ASD still prevents any guarantee of success beyond 'might work' (Wong et al., 2014).

This is the crux of the challenge educators' face. Knowledge of ASD in education does not have a long history; expert opinion is diverse and often contradictory; and the evidence base is sporadic and unreliable for universal application. Wong et al. (2014) assert that intervention strategies have more likelihood of successful outcomes when evidence-based practices are linked to specific individualised goals based on the identified needs of the student and informed knowledge of their current circumstances and past experience.

ASD and Mental Health

Anxiety is emerging as a significant co-morbid presentation in individuals with ASD (Gillott & Standen, 2007; Rieske, Matson, May, & Kozlowski, 2012; White, Ollendick, Oswald, & Scahill, 2009). Findings from a recent Queensland study of anxiety in high-functioning boys with ASD confirm these trends in Australia (Bitsika, Sharpley, Sweeney, & McFarlane, 2014). The Australian Advisory Board on Autism Spectrum Disorders (AAB-ASD, 2012) claim many individuals with ASD have been overlooked by our mental health services. They suggest mental ill-health is often inappropriately considered to be part of the ASD condition, dismissing the need for services and support on this basis.

The AAB-ASD discussion paper reports some disturbing prevalence rates associated with ASD and co-morbid mental health conditions, including high rates of psychiatric problems in adulthood; 43% with mood disorders, 50% with anxiety (Gillott & Standen, 2007), and 70% of mainly young adults with ASD also having a clinical mental health condition (ASPECT, 2012, cited in AAB-ASD, 2012). A Queensland survey of young adults conducted by Neary (2012), found 47% of the study group experienced "Clinically significant mental health difficulties … compared to 7% in the general population" (AAB-ASD, 2012, p. 10).

Research Question

A review of the literature highlights the diversity and complexity of ASD, the urgent need for improved understanding in schools, the breadth and variation of challenge experienced by individuals with the condition, and the tragedy of missing the mark with support strategies. The key question that emerges is: *How can support for high-functioning students with ASD be more effectively understood, implemented and experienced in mainstream schools?*

Methodology

Research Paradigm

The intent of this study, contributing to a breadth of understanding about the challenge of meeting the educational needs of high-functioning students with ASD by exploring educator perspectives, aligns it with a qualitative approach. Qualitative research is considered appropriate when the data collected is not directly measurable and interpretation is required about what people say and do in order to answer the research question (O'Toole & Beckett, 2010). The questionnaire design featured multiple opportunities for educators to express their perspective via text responses, creating a data bank rich in concepts and ideas but not statistically measurable.

An interpretive/constructivist perspective accommodates the understanding that knowledge can be drawn through exploration of the world of human experience and interaction, and also from understanding ways in which we create our own reality (Babbie, 2011; Creswell, 2013; Mackenzie & Knipe, 2006). Knowledge created through the experience of the knower, as opposed to existing apart from the knower, aligns well with the purpose and aims of this research project, inspiring an inductive rather than a deductive approach (Dahlberg & McCaig, 2010).

The Case Study Approach

The quest for understanding inspired the choice of Case Study as a methodology which Boeije (2010) describes as a valid approach to interpreting the meaning in human experience and behaviour. Yin (2009) proposes that case study methodology is relevant when (a) the research question asks how or why, (b) there is no control of behavioural events required and (c) there is a focus on contemporary rather than historical events. Flyvbjerg (2006) argues that the context-independent knowledge of facts, figures and analytical rationality can only support a learner to reach the beginner's level of competency, and that in a teaching context intimate knowledge of thousands of cases is what leads educators to develop expertise in their field. Educators need to move beyond the beginner level of implementing evidence-based practices as designed by others, to a level of expertise that inspires a qualitative understanding of not only *what* is considered to be valued practice, but *why* it would be relevant in their circumstances, and *how* to effectively implement it with reasonable adjustments for individual students.

Participants

Participants were recruited on a voluntary basis from a number of locations throughout Victoria. They were employed in the public education sector and were required to have had a close working relationship with at least one high-functioning student with ASD within the past 12 months. Educators' perspectives were studied in preference to student perspectives in order to minimise the potential impact of participation and to gain a broader overview of contributing factors. In order to facilitate practical application of the findings it was also considered beneficial to link research outcomes to educator voice.

The study group of fifty-six participants consisted of six Network or Regional Support Specialists, (Psychologists, ASD Coaches, Speech Pathologist), fifteen Classroom Teachers, eleven Coordinators or Team Leaders, nine Education Support Officers, eight Assistant Principals and seven Principals. Twenty-eight participants worked in the Primary sector, nineteen in the Secondary sector, four in the Specialist sector and five worked across Primary, Secondary and Specialist settings. Challenges and supports in schools are often identified,

planned and implemented by a stakeholder team so the inclusion of a cross-section of perspectives was sought with the intention of adding depth and richness to the data.

Data Collection and Analysis

An online survey was created using Qualtrics software covering educator demographics, (current and past roles, educational sector, years of experience in schools, approximate numbers of students with ASD they had supported), and information relating to a particular high-functioning student with ASD they had worked with during the past 12 months. The questions posed to elicit the data which contributed to the creation of the BBMS are as follows:

1. What do you consider to be your student's greatest strength/s?
2. Provide a brief snapshot of your student. (Likes, dislikes, learning style, habits, interests, abilities, difficulties etc.)
3. What do you consider to be the markers of success in your classroom/school?
4. Under what circumstances is the student you described in section 2 most successful? (Consider environment, curriculum, organisation and relationships)
5. Under what circumstances is your student most challenged? (Consider environment, curriculum, organisation and relationships)
6. How do you cater for this student's additional needs in the classroom environment? (Consider proactive and reactive strategies)
7. How do you cater for this student's additional needs during breaks?
8. Briefly describe your most successful experience with this student.
9. Briefly describe your most challenging experience with this student.

Consent to conduct the study was obtained from the Department of Education and Early Childhood Development (DEECD), Regional Offices and School Principals and the survey was distributed via email with an explanatory statement attached. As part of this process respondents were invited to nominate themselves for a follow-up interview to explore their perspective in greater depth. Eleven respondents participated in individual semi-structured interviews and provided additional insight into their experiences with students with ASD. Random selection of interview candidates was initially guided by availability, but with high numbers of volunteers, factors such as role, gender and sector were also able to be considered to generate variety in perspective.

The nature of skills, knowledge and understanding considered advantageous to teaching staff when working with high-functioning students with ASD was investigated within a discussion on personal interactive style, educational philosophy and teaching approach. Understanding of factors relating to the focus student identified in the survey questionnaire was also expanded through discussion of first impressions, change over time, coping with challenge, managing personal experience, descriptors of positive and difficult days, stand-out events, responses, personal lessons and insights, barriers to progress and successful strategies.

Each respondent’s perspective was considered individually to gain a broad understanding of the ways in which the text responses connected and supported each other. Questions were also considered independently with the responses pooled and examined for the extraction of concepts and themes. To simplify data searches, cross-checks and verification, the qualitative research software application NVivo was used to store and manage information. This enabled data to be coded and categorised several times to explore

connections and relationships between the themes before determining the final structure of the BBMS.

Checklists of variables for student strengths, barriers to success, bridging supports and success targets were created from the data and categorised to extract the themes represented within each sector of the model. With the structure finalised, data was then extracted from both the survey and interview transcripts to create eleven individual example student profiles using the BBMS template. Extracts from these are presented in the results section of this article and an example is provided as an appendix.

Trustworthiness and Authenticity

The inherent truth of a qualitative study cannot be verified through measurement and statistics but will become apparent through verisimilitude, which Bruner (1986) describes as "lifelikeness", a quality which convinces the reader of its integrity through credibility, transferability, dependability and confirmability (Lincoln & Guba, 1985). Trustworthiness and authenticity of this study was supported by the large number of participants and multiple sources of data which allowed for a high degree of triangulation of information. Educator voice benefited from the diversity within the group in terms of role, location, sector and experience, ensuring multiple points of connection to enhance credibility and transferability. The use of technology to manage the databank stabilised the content and supported the coherency of interpretations.

Results

Student Strengths and Abilities

Educators described student strengths in a variety of ways including personal qualities, abilities, achievements, skills. There was a clear recognition by participants of personal attributes such as sense of humour, motivation, commitment, being open and willing to learn and positive attitude. This sector dominated the list as can be seen more clearly in Table 1. Note that most participants mentioned examples of more than one sub-theme, so within this article frequency of mention does not necessarily equate to respondent numbers.

Utilising a profile of student strengths in the planning of educational experience provides a snapshot of student potential and supports transferability of understanding. The following sample profile, using pseudonyms to protect the identity of those involved, was drawn from information provided by one of the participants Theresa (Education Support Officer) in reference to her student, Timothy (age 15): loves PE, sporty – tennis (Physical skills); clever ideas, verbally creative (Creative skills); excellent verbal skills, intelligence (Cognitive skills); language/interview skills, reading (Academic skills); personable with adults, good conversationalist (Social skills); and keen to succeed, self-management skills, amiable (Personal qualities)

Themes	Sub-themes	Frequency of mention	% of Total
Physical Skills	Sport, practical activities, organised, neat, tidy	6	3.8%
Creative Skills	Music, drama, creative thinking, art, drawing	11	6.9%
Cognitive Skills	Focus and concentration, unique perspective, memory for facts and trivia, intelligence, thinking skills, reasoning	22	13.7%
Academic Ability	Literacy, maths, science, technology, general knowledge	20	12.5%
Social Skills	Relations, connections, communication, imitation, manners, etiquette	29	18.1%
Personal Qualities	Charisma, sense of humour, emotional stability, open, willing, honest, true, helpful, caring, kind, cooperative, positive attitude, drive, commitment, motivation	72	45%

Table 1: Student strengths identified by participating educators

Bridges and Barriers on the Pathway to Success

The concepts for the bridges and barriers evolved from filtering the data through aspects of the catalysts and developmental process outlined in Gagné's (2013) model. The broad classification is threefold; internal, intrapersonal factors with a focus on self; external, contextual factors with a focus on environment; and the interactive elements where internal and external factors cross over, connect and collide, with a focus on self *in* environment.

The same subheadings were used for both barriers and bridges in order to align thinking about challenges and support. This is not to suggest that an intrapersonal barrier must have an intrapersonal support, (for example, environmental factors can certainly be a catalyst for personal growth). The main concern is whether the supports in place have been matched well with the student's identified challenges.

The imbalance between the nature of need and the intent of support within some domains can be seen in the summary of themes and sub-themes in Table 2.

Themes	Sub-themes	(Barriers)	(Bridges)
Contextual Bridges and Barriers	Physical	**11**	**44**
	Organisation	**30**	**101**
	Social-Emotional	**20**	**12**
	Sensory	**12**	**5**
Experiential Bridges and Barriers	Relationships and Connections	**23**	**58**
	Interaction and Communication	**35**	**53**
	Tasks and Activities	**48**	**93**
Intrapersonal Bridges and Barriers	Health, Physiology, Well-Being	**19**	**20**
	Abilities and Skills	**5**	**25**
	Qualities and Characteristics	**6**	**9**
	Values and Beliefs	**18**	**6**

Table 2: Bridges and barriers experienced by high-functioning students with ASD (Frequency of mention)

Considerable support was acknowledged as being provided in relation to organisational factors and social/learning experiences but there appears to be less support in

place to address the social-emotional and sensory contexts or the intrapersonal needs of students. It is not suggested that a one-to-one relationship should exist between bridges and barriers, however when the number of supports are lower than the number of barriers identified, an opportunity exists to provide additional targeted or individualised supports.

The example in Table 3 itemises the bridges and barriers drawn from information provided by Jacqui (Principal) in relation to her student Jessica (age 10).

Bridges: Factors Supporting Jessica's Success		
Context, Environment (External Factors)	**Interaction, Participation** (Experiential Factors)	**Intrapersonal** (Internal Factors)
Establish clarity through visual supports	Step-by step processes	Provide information before, during and after
Embed organisational structures into everyday practice	Question and answer format to give and receive information	Give her time when she needs it to acknowledge the need and set up a plan
Atmosphere of open, respectful, honesty	Explicit teaching, visible learning	Accommodate her personal interests – they support a calm state
Establish and use the language of emotional intelligence	Follow through on 'promises'	Develop her knowledge and skills of questioning formats and techniques
Establish belonging - ensure everyone finds their place in the classroom space	Pre-warn, explain and justify change	Pause, prompt, push off
	Answer all questions (They will stop when she has the answer she needs)	
	Match tasks and ability well	
Barriers: Factors Impeding Jessica's Success		
Context, Environment (External Factors)	**Interaction, Participation** (Experiential Factors)	**Intrapersonal** (Internal Factors)
Unclear expectations, Unpredictable, inconsistent circumstances	Change: routines, people, tasks	Poor gross motor control and coordination
New experiences without warning or preparation	Social understanding, social cognition	Prone to anxiety over lack of knowledge and information
	Difficult tasks without support will generate extreme anxiety	Slow to recover from meltdown
	Very literal understanding of the world. Will miss subtle meanings and innuendo	Reluctant to take risks or act on faith

Table 3: An example of student bridges and barriers extracted from data

The following examples compare a possible mismatch and a more aligned use of bridges to overcome a barrier.

Noah (age 7) has barriers described as "*Classroom, confined areas, structured activities that require persistence*" and bridges described by Nadine (Education Support Officer), as "*Timer, First and then, Prompting with assistance, Choices, Schedules - Own time and space, free choice*". It is possible that many of the structured supports in place are helping classroom harmony but may actually be contributing to Noah's individual barriers as they conflict with his natural preference for space, freedom and personal choice. Under these circumstances the supports may initiate resistance and rigidity rather than cooperation and collaboration.

A more natural alignment can be seen for Courtney (age 5). Her barriers were described as; *"outside with less boundaries in terms of environment and play structure - when she is pressured to finish a task or hurry up but doesn't like to have things incomplete - she really struggles to be flexible in her thinking and does not take on board ideas when she is challenged about her thinking and its flaws"* - (Chris, Specialist Services).

There is evidence of consideration of these elements in Chris's account of the bridges set in place to support her; *"extra time - modified quantity - video modelling - learning from experiences and discussion of those - having structure in the classroom and routine -*

allowing her to feel somewhat in control - shorter time outside so some time in social skills in the library - repetition of rules - pairing her with more competent students outside to keep an eye on her and lead her away from dangerous spots". It can be seen that the specific nature of Chris's description of Courtney's barriers provides clearer indicators of potential supports.

Markers of Success

The themes and subthemes for the Success Targets section of the model were drawn from the educators' appraisal of the key indicators of success in their classroom or school. Five major themes emerged; student outcomes and achievements, student well-being, student engagement, planning and programming and positive school community (see Table 4). The sub-themes indicate the diversity of opinion within the educator group.

Themes	Sub-themes	Frequency of mention	% of Total
Student Outcomes and Achievements	Literacy, Numeracy, Oracy, Celebration, Pride, Acknowledgement, Standards, High Expectations, Development, Progress, Growth	**22**	13.2%
Student Well-Being	Independent, confident, resilient, happy, positive, safe, supported, secure, relaxed, connected, valued, appreciated	**37**	22.2%
Student Engagement	Attendance, cooperation, teamwork, participation, ownership, responsibility, resolution, enthusiasm for learning, embracing school life	**45**	26.9%
Planning and Programming	Regular monitoring and assessment, knowledge (ASD, students, teaching), motivation, reinforcement, feedback, clear expectations, learning intentions, success criteria, systems, structure, organisation, differentiation (activities, instruction, support)	**26**	15.5%
Positive School Community	Focus on students, learning, achievement, school wide values, involved positive parents, supportive peers, consistency, cohesion, collaboration, quality staff (dedicated, successful, innovative)	**37**	22.2%

Table 4: Targets for success within inclusive school environments

The difference in priorities between the educator roles is apparent in Table 5. These fluctuations raise questions about the degree of cohesion between staff members and continuity of support within schools. It is also concerning that student outcomes and achievement scored as the lowest priority, yet student engagement featured as the highest. Could this suggest that educator expectations of this cohort tend more toward participation than productivity? Markers of success were open-ended as the intention was to gain a sense of the general priorities or end-goals of the participants. This resulted in a broader range of targets within the BBMS.

Markers of Success	Classroom Teachers	Education Support Officers	Principals and Assistant Principals	Team Leaders and Program Coordinators	Specialist Support	Total
Student Outcomes and Achievements	9	2	6	3	2	**22**
Student Well-Being	16	2	10	6	3	**37**
Student Engagement	19	9	5	11	1	**45**
Planning and Programming	3	2	11	7	3	**26**
Positive School Community	6	6	18	6	1	**37**
TOTAL MARKERS OF SUCCESS:	53	21	50	33	10	**167**

Table 5: Markers of Educational Success as Described by the Participant Group (Frequency of Mention)

The example of student and school success targets in Table 6 was created from the data provided by Joanna (Specialist Services) in reference to Jaryd (age 13). The success targets are intended to reflect current priorities; they inform but do not replace individual learning plan goals. They have been worded with intention to act as a guide for HOW these targets can be implemented. Educator reflection and adaptation for individual circumstances would be expected to follow.

Jaryd's Success Targets		
Achievement • Self-pace through the maths text to support use of strengths to access success	Wellbeing • Reduce anxiety through social cognition development	Engagement • Build positive connections to learning and peer group
School Success Targets		
Planning, Programming • Collaborative planning with multi-discipline team • Functional behaviour assessment		Positive Community • Identify who among his support network is best situated to take a lead support role and who supports them (Too many cooks at present)

Table 6: An example of success targets

Discussion

Problems with Current Support Strategies

Participant responses highlighted that student strengths were dominated by personal qualities and social skills, with very few references to strengths in academic ability. Only 17 of the 56 participants acknowledged aspects of academic achievement, and of these, many described their student's strengths in terms of enjoyment, connection or survival, rather than proficiency. For instance, comments included that Bree (12) "*Loves to read, always has a go*", Bartholomew (14) has a great "*understanding of the computer*" and Rory (11) "*copes academically*". The nature of these descriptions of strength raises questions about the current level of learning expectation placed upon the students involved.

The major categories of both the barriers and the bridges within the study were "Context and Environment", "Interaction and Participation", and "Intrapersonal". This

division grouped the challenging and supporting factors in a way that also reflected the degree of input required from the student. Contextual supports are totally within the control of the educator to plan and manage; the experiential supports require the student's connection or participation with people and activities in order to be successful; and the intrapersonal supports are very individual, requiring significant engagement, input and/or practice from the student.

The results in Table 2 indicate a bias toward support factors within the contextual and experiential domains; 366 mentions compared to 60 intrapersonal support factors. This would suggest a tendency to provide more support that is "other-controlled" rather than student self-managed. An opportunity exists to supplement or adjust current trends by aligning supports more directly with the identified barriers, or introducing more supports based on targeted personal development, encouraging student ownership and authorship of their school experience.

Organisational supports such as structure, order, purpose, clear expectations and even systems of planning and programming were in common use (49 out of 56 participants mentioned an organisational element). A variety of task-based supports relating to the content, structure and dynamics of learning activities also featured strongly. These types of accommodations tend to work effectively to support classroom operations and promote compliance, but do not always guarantee student engagement or active learning. This is another area of potential misalignment with student learning needs. An over-reliance on contextual supports may miss opportunities to develop connections and individual abilities.

Difficulties experienced by high-functioning students with ASD were most common in situations of interaction or conflict with others, rigid values and beliefs, responses to non-preferred tasks and activities, and coping with lack of order, purpose or predictability. Is it possible that some students are experiencing accommodations as controlling rather than supportive? Are they experiencing a disconnect with the purpose or relevance of expectations? If the child is not feeling supported, or connected to their own experience, the strategy may be missing the mark.

Self-Management and Independence

The time and effort required to plan and implement support for students with ASD was raised as a common challenge for educators. Reducing the demands on staff by increasing student self-management and independence is a valuable long-term goal. Words are powerful and how they are used can influence and shape thinking. Reframing contextual barriers in terms of intrapersonal skills can influence how they are perceived, and can guide educators in new conceptualisations of support needs. This can be achieved by drilling down to specific details as shown in the following example:

Becky (Education Support Officer) described one of Bradley's (age 10) barriers as, "*when given no boundaries for learning*", which places the responsibility of provision upon the educators. Bradley will face open-ended learning tasks throughout his whole education, so as a contextual barrier the challenge would be ongoing and persistent. However, if reframed as an intrapersonal barrier, (e.g. "*difficulty managing open-ended tasks*"), a different approach to support could be taken. Bradley could be empowered to take charge of his own educational experience through support to build specific skills in asking for information, developing personal plans, setting goals and establishing his own boundaries for learning. With this approach the barrier would diminish in impact over time as the skills are established.

Anxiety and Mental Health

Mental health is a major concern for high-functioning students with ASD, yet little support appears to be directed to addressing these barriers in schools. The results in Table 2 indicate that the social-emotional context of the school environment and students' personal values and belief systems may often be overlooked as a valid support option. Building school-wide consistency through safe, supportive systems and addressing anxiety through empowerment and intrapersonal development is likely to also impact upon learning outcomes.

Within the perspectives of this educator group, contextual support was at least eight times more likely to be acknowledged if it was organisational in nature than if it was addressing the social-emotional context; yet it is the experiential, interactive aspects of school life that are identified as being most problematic. Organisational factors may support behaviour, but they are less predictable as a support for experience, and it is experience that impacts upon mental health.

Plunkett and Kronborg (2007) demonstrated the importance of the social-emotional context in their study of gifted students learning within an environment that was specifically designed to cater for their identified social-emotional challenges. It was found that with targeted support the students reported stronger connections to their learning, higher levels of motivation and engagement, greater willingness to contribute and make use of their skills and strengths, and feelings of enjoyment, importance and belonging. As one year 12 student summed up, "the classes provided a bit of a haven … we could all relax our guard" (Plunkett & Kronborg, 2007, p. 41). It is a concern that it took until year 12 before this cohort felt comfortable within their educational environment.

Many students with ASD also find it difficult to relax their guard. Hypervigilance is common, but more effective alignment of supports with specific individualised needs could assist teachers to identify havens for their students; reducing anxiety and improving educational outcomes.

Response to Key Research Question

In today's inclusive classrooms it is imperative that educators gain, maintain and develop a depth and breadth of understanding of the individuals within their diverse cohort of learners. The BBMS captures a relatively stable profile of student strengths, challenges, successful strategies and long-term targets for individual and whole school success within a strengths-based approach. Through careful consideration of the specific nature of external, interactive and intrapersonal barriers educators can be better prepared for predicting and preventing prohibitive challenges. Clarity, purpose and alignment of supportive strategies can be planned in advance to address identified barriers with the intent of improving confidence, participation and experience for both students and educators. Including long-term targets for students, staff and school provides a guide to focus implementation of support toward successful outcomes in a holistic manner.

The structure of the BBMS provides the opportunity to acknowledge and incorporate information on both ability and disability from educational, medical, psychological and social perspectives, enhancing its usefulness for high-functioning students with ASD. Keeping the emphasis on the source and nature of strengths, challenges and supports, rather than ASD specific symptoms and characteristics, enables the BBMS to be used as a universal tool for any student requiring targeted or intensive support.

Conclusion

High-functioning students with ASD have been identified as a cohort at risk within mainstream educational environments. Rising prevalence rates, unique and extreme presentations of behaviour, excessive difficulties in educational settings and disproportionate levels of anxiety contribute to the challenge educators experience in providing this cohort with appropriate and equitable educational opportunities within mainstream school settings. Research highlights the importance of understanding students at an individual level and matching evidence-based practices with identified needs to ensure appropriate learning pathways and support strategies.

The Bridges and Barriers Model of Support offers a framework for recording key understandings about individual students that can form a basis for cohesive, holistic planning and support. It was developed with the intent of producing a framework for supporting educators to address the disproportionate educational outcomes and high levels of anxiety experienced by many high-functioning students with ASD. What has emerged is a practical and useful format for envisioning successful pathways for any student with additional needs.

References

AAB-ASD. (2012). The Interface Between Autism Spectrum Disorders and Mental Health: The Ways Forward. *Australian Advisory Board on Autism Spectrum Disorders Discussion Paper*.

AAWA Inc. (2007). *Beyond Behaviour Management: for managing behavioural difficulties in Individuals with an Autism Spectrum Disorder*. Subiaco, WA: Autism Association of Western Australia Inc.

ABS. (2011). Autism and Education. Retrieved from http://www.abs.gov.au/ausstats/abs@.nsf/cat/4428.0

ABS. (2015). Autism and Education. Retrieved from http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/4428.0

Amaral, D. G. (2011). The promise and the pitfalls of autism research: An introductory note for new autism researchers. *Brain Research*, 1380, 3-9. http://dx.doi.org/10.1016/j.brainres.2010.11.077

Assouline, S. G., Foley Nicpon, M., & Doobay, A. (2009). Profoundly gifted girls and autism spectrum disorder: A psychometric case study comparison. *Gifted Child Quarterly, 53*(2), 89-105. http://dx.doi.org/10.1177/0016986208330565

Assouline, S. G., Foley Nicpon, M., & Huber, D. H. (2006). The Impact of Vulnerabilities and Strengths on the Academic Experiences of Twice-Exceptional Students: A Message to School Counselors. *Professional School Counseling, 10*(1), 14-24. http://dx.doi.org/10.5330/prsc.10.1.y0677616t5j15511

Babbie, E. (2011). *The Basics of Social Research*. Belmont: Wadsworth Cengage Learning.

Bailey, A., Le Couteur, A., Gottesman, I., Bolton, P., Simonoff, E., Yuzda, E., & Rutter, M. (1995). Autism as a strongly genetic disorder: Evidence from a British twin study. *Psychological Medicine, 25*(1), 63-77. http://dx.doi.org/10.1017/S0033291700028099

Baird, G., Chandler, S., Simonoff, E., Pickles, A., Loucas, T., Meldrum, D., & Charman, T. (2006). Prevalence of disorders of the autism spectrum in a population cohort of children in South Thames: the Special Needs and Autism Project (SNAP). *Lancet, 368*(9531), 210-215. http://dx.doi.org/10.1016/S0140-6736(06)69041-7

Baron-Cohen, S., Leslie, A. M., & Frith, U. (1985). Does the autistic child have a "theory of mind"? *Cognition, 21*(1), 37-46.

Baron - Cohen, S. (2008). *Autism and Asperger Syndrome*. Oxford: Oxford University Press. http://dx.doi.org/10.1016/0010-0277(85)90022-8

Bianco, M., Carothers, D. E., & Smiley, L. R. (2009). Gifted students with asperger syndrome: Strategies for strength-Based programming. *Intervention in School and Clinic, 44*(4), 206-215. http://dx.doi.org/10.1177/1053451208328827

Bitsika, V., Sharpley, C. F., Sweeney, J. A., & McFarlane, J. R. (2014). HPA and SAM axis responses as correlates of self- vs parental ratings of anxiety in boys with an Autistic Disorder. *Physiology & Behavior*, 127, 1-7. http://dx.doi.org/10.1016/j.physbeh.2013.12.011

Boeije, H. (2010). *Analysis in Qualitative Research*. Los Angeles: SAGE.

Booth, R., & Happe, F. (2010). "Hunting with a knife and ... fork": Examining central coherence in autism, attention deficit/hyperactivity disorder, and typical development with a linguistic task. *Journal of Experimental Child Psychology, 107*(4), 377-393. http://dx.doi.org/10.1016/j.jecp.2010.06.003

Bradshaw, S. (2012). *Asperger's Syndrome: That Explains Everything - Strategies for education, life and just about everything else.* London & Philedelphia: Jessica Kingsley Publishers.

Bruner, J. (1986). *Actual Minds, Possible Worlds*. Cambridge USA: Harvard University Press.

Cash, A. (1999). A profile of gifted individuals with Autism: The twice-exceptional learner. *Roeper Review, 22*(1), 22-27. http://dx.doi.org/10.1080/02783199909553993

Cashin, A., & Barker, P. (2009). The Triad of Impairment in Autism Revisited. *Journal of Child and Adolescent Psychiatric Nursing, 22*(4), 189-193. http://dx.doi.org/10.1111/j.1744-6171.2009.00198.x

CDC. (2013, 27th June 2013). Autism Spectrum Disorders (ASDs). Retrieved from http://www.cdc.gov/ncbddd/autism/data.html

Courchesne, E., & Pierce, K. (2005). Why the frontal cortex in autism might be talking only to itself: local over-connectivity but long-distance disconnection. *Curr. Opin. Neurobiol., 15*(2), 225-230. http://dx.doi.org/10.1016/j.conb.2005.03.001

Creswell, J. W. (2013). *Qualitative Inquiry and Research Design: Choosing among five approaches*. Thousand Oaks: Sage Publications.

Croen, L. A., Grether, J. K., Hoogstrate, J., & Selvin, S. (2002). The Changing Prevalence of Autism in California. *Journal of Autism and Developmental Disorders, 32*(3), 207-215. http://dx.doi.org/10.1023/A:1015453830880

Dahlberg, L., & McCaig, C. (2010). *Practical Research and Evaluation: A start to Finish Guide for Practitioners.* London: Sage Publications. http://dx.doi.org/10.4135/9781446268346

DSM 5. (2013). *Diagnostic and statistical manual of mental disorders : DSM-5*. Arlington, VA: Arlington, VA : American Psychiatric Association.

Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry, 12*(2), 219-245. http://dx.doi.org/10.1177/1077800405284363

Frith, U., & Happe, F. (2006). The Weak Coherence Account: Detail-focused Cognittive Style in Autism Spectrum Disorders. *Journal of Autism and Developmental Disorders, 36*(1), 5-25. http://dx.doi.org/10.1007/s10803-005-0039-0

Frith, U., & Happé, F. (1994). Autism: beyond "theory of mind". *Cognition, 50*(1–3), 115-132. http://dx.doi.org/10.1016/0010-0277(94)90024-8

Frith, U., & Hill, E. (2003). *Autism: Mind and Brain*. Oxford: Oxford University Press.

Gagné, F. (2013). The DMGT: Changes Within, Beneath, and Beyond. *Talent Development and Excellence, 5*(1), 5-19.
Gillott, A., & Standen, A. (2007). Levels of anxiety and sources of stress in adults with autism. *Journal of Intellectual Disabilities, 11*(4), 359-370. http://dx.doi.org/10.1177/1744629507083585
Hansen, J. B., & Toso, S. J. (2007). Gifted Dropouts: Personality, Family, Social, and School Factors. *Gifted Child Today, 30*(4), 30-41.
Hendrickx, S. (2010). *The Adolescent and Adult Neuro-diversity Handbook* London & Philidelphia: Jessica Kingsley Publishers.
Hill, E. (2004). Evaluating the theory of executive dysfunction in autism. *Developmental Review, 24*(2), 189-233. http://dx.doi.org/10.1016/j.dr.2004.01.001
Holcombe, W. (2015). *Temperament Type: Bridges and Barriers in the education of high-functioning students with ASD in mainstream schools*. Unpublished MEd thesis, Monash University.
Huang, J. P., Cui, S. S., Han, Y., Irva, H.-P., Qi, L. H., & Zhang, X. (2014). Prevalence and early signs of autism spectrum disorder (ASD) among 18-36 month-old children of Tianjin in China. *Biomedical and Environmental Sciences, 27*(6), 453-461.
Hunter, A. (2009). High-tech Rascality: Asperger's Syndrome, Hackers, Geeks, and Personality Types in the ICT Industry. *New Zealand Sociology, 24*(2), 39-61.
Just, M. A., Cherkassky, V. L., Keller, T. A., & Minshew, N. J. (2004). Cortical activation and Synchronization during sentence comprehension in high functioning autism: evidence of underconnectivity. *Brain, 127*(8), 11. http://dx.doi.org/10.1093/brain/awh199
Just, M. A., & Pelphrey, K. A. (Eds.). (2013). *Development and brain systems in autism*. New York: New York : Psychology Press.
Kim, Y., Leventhal, B., Koh, Y., Fombonne, E., Laska, E., Lim, E. C., . . . Grinker, R. (2011). Prevalence of Autism Spectrum Disorders in a Total Population Sample. *Am. J. Psychiat., 168*(9), 904-912. http://dx.doi.org/10.1176/appi.ajp.2011.10101532
Kim, Y., & Leventhal, B. L. (2015). Genetic Epidemiology and Insights into Interactive Genetic and Environmental Effects in Autism Spectrum Disorders. *Biological Psychiatry, 77*(1), 66-74. http://dx.doi.org/10.1016/j.biopsych.2014.11.001
Landrigan, P. J. (2010). What causes autism? Exploring the environmental contribution. *Current Opinion in Pediatrics, 22*(2), 219-225. http://dx.doi.org/10.1097/MOP.0b013e328336eb9a
Lawson, W. (2011). *The Passionate Mind: How People with Autism Learn*. London & Philadelphia: Jessica Kingsley Publishers.
Leonard, H., Dixon, G., Whitehouse, A. J. O., Bourke, J., Aiberti, K., Nassar, N., . . . Glasson, E. J. (2010). Unpacking the complex nature of the autism epidemic. *Research in Autism Spectrum Disorders, 4*(4), 548-554. http://dx.doi.org/10.1016/j.rasd.2010.01.003
Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. Newbury Park, CA: SAGE Publications Inc.
Mackenzie, N., & Knipe, S. (2006). Research Dilemmas: Paradigms, Methods and Methodology. *Issues in Educational Research, 16*(2), 193-205.
McCoach, D. B., Kehle, T. J., Bray, M. A., & Seigle, D. (2001). Best Practices in the Identification of Gifted Students with Learning Disabilities. *Psychology in the Schools, 38*(5), 403-411. http://dx.doi.org/10.1002/pits.1029

Neary, P. (2012). *Parents'/ Carers' Perceptions of Post-School Circumstances and Service Requirements of Teenagers and Adults with High-Functioning Autism or Asperger's Syndrome.* . Queensland University of Technology. Brisbane, Australia.

Neggers, Y. H. (2014). Increasing Prevalence, Changes in Diagnostic Criteria, and Nutritional Risk Factors for Autism Spectrum Disorders. *Healthcare, 2014*(2), 429-444. http://dx.doi.org/10.1155/2014/514026

Neihart, M. (2003). Gifted children with Asperger's syndrome. *Gifted Child Quarterley 44*(4), 222-230. http://dx.doi.org/10.1177/001698620004400403

Norbury, C., & Sparks, A. (2013). Difference or Disorder? Cultural Issues in Understanding Neurodevelopmental Disorders. *Developmental Psychology, 49*(1), 45-58. http://dx.doi.org/10.1037/a0027446

O'Toole, J., & Beckett, D. (2010). *Educational Research: Creative Thinking and Doing*. South Melbourne: Oxford University Press.

Ouellette-Kuntz, H., Coo, H., Lam, M., Breitenbach, M. M., Hennessey, P., Jackman, P. D., . . . Chung, A. (2014). The changing prevalence of autism in three regions of Canada. *Journal of Autism and Developmental Disorders, 44*(1), 120-136. http://dx.doi.org/10.1007/s10803-013-1856-1

Parner, E. T., Thorsen, P., Dixon, G., de Klerk, N., Leonard, H., Nassar, N., . . . Glasson, E. J. (2011). A comparison of autism prevalence trends in Denmark and Western Australia. *Journal of Autism and Developmental Disorders, 41*(12), 1601-1608. http://dx.doi.org/10.1007/s10803-011-1186-0

Pisula, W., & Pisula, E. (2014). Autism prevalence and meat consumption - A hypothesis that needs to be tested. *Medical Hypotheses, 83*(4), 488-493. http://dx.doi.org/10.1016/j.mehy.2014.08.007

Plunkett, M., & Kronborg, L. (2007). The Importance of Social-emotional Context: Perceptions of Students, Parents and Teachers Regarding an Extended Curriculum Program for Students with High Abilities. *Australasian Journal of Gifted Education, 16*(2), 35-43.

Rieske, R. D., Matson, J. L., May, A. C., & Kozlowski, A. M. (2012). Anxiety in Children with High-Functioning Autism Spectrum Disorders: Significant Differences and the Moderating Effects of Social Impairments. *Journal of Developmental and Physical Disabilities, 24*(2), 167-180. http://dx.doi.org/10.1007/s10882-011-9264-y

Stevens, I. (2011). Mythologizing Asperger Syndrome: Exploring impacts on Social Justice for Children in out-of-home care. *International Journal of Child, Youth and Family Studies*, 3 & 4, 473-493.

Strifert, K. (2014). The link between oral contraceptive use and prevalence in autism spectrum disorder. *Medical Hypotheses, 83*(6), 718-723. http://dx.doi.org/10.1016/j.mehy.2014.09.026

Sun, X., & Allison, C. (2010). A review of the prevalence of Autism Spectrum Disorder in Asia. *Research in Autism Spectrum Disorders, 4*(2), 156-167. http://dx.doi.org/10.1016/j.rasd.2009.10.003

White, S. W., Ollendick, T., Oswald, D., & Scahill, L. (2009). Anxiety in children and adolescents with autism spectrum disorders. *Clinical Psychology Review, 29*(3), 216-229. http://dx.doi.org/10.1016/j.cpr.2009.01.003

Wing, L. (1997). The autistic spectrum. *The Lancet, 350*(9093), 1761-1766. http://dx.doi.org/10.1016/S0140-6736(97)09218-0

Wong, C., Odom, S. L., Hume, K., Cox, A. W., Fettig, A., Kucharczyk, S., . . . Schultz, T. R. (2014). Evidence-Based Practices for Children, Youth, and Young Adults with Autism Spectrum Disorder. Chapel Hill: The University of North Carolina.

Wood, S., & Estrada-Hernandez, N. (2009). Psychosocial characteristics of twice-exceptional individuals: Implications for rehabilitation practice. *Journal of Applied Rehabilitation Counseling, 40*(3), 11-18.

Yin, R. K. (2009). *Case study research: design and methods* (4th ed.). Thousand Oaks, Calif.: SAGE Publications Inc.

Student Name: Jeremy Ashmore **Year Level: 3** **Date: 24.2.16** **Review Date: 24.11.16**
Age: 9

Student Strengths

Physical Skills
- Enjoys participating in play with friends

Creative Skills
- drawing

Cognitive Skills
- Great memory
- Logical

Academic Ability
- Enjoys learning
- Learns through repetition
- Visual learner
- Technology

Social Skills
- Enjoys being social with his friends
- Role model for others when working in positive routines

Personal Qualities
- Caring,
- Helpful
- Loyal once trust is established

BRIDGES: *Factors Supporting Student Success*

Context, Environment
(External Factors)
- Fair and equitable environment
- Needs things to be under control - someone is in charge
- Provide clear structure at every level, open and explicit
- Have clear expectations, make them visible
- Have a designated calming area
- Provide options and alternatives for leisure time with flexibility to choose daily

Interaction, Participation
(Experiential Factors)
- Match tasks with ability
- Loves to be involved in supported social activities
- Establishing a trust relationship is critical – needs to know he can count on the adult to keep things under control or he will act out and take over
- No for one must mean no for all

Intrapersonal
(Internal Factors)
- Preventative strategies to manage agitation and restore calm self-control
- Support his acceptance of alternative views through gentle, consistent and constant exposure
- Find genuine reasons to like him and show it

BARRIERS: *Factors Impeding Student Success*

Context, Environment
(External Factors)
- Chaotic, undisciplined settings
- Lack of fairness or justice
- Shades of grey in anything
- Needs an environment of unconditional positive regard to develop trust. (Is likely to push boundaries until he knows where they are)

Interaction, Participation
(Experiential Factors)
- Maintaining friendships
- Difficulties forgiving friends who he believes have wronged him
- Bothered by others breaking the rules, will step in to be the policeman if adults don't take charge

Intrapersonal
(Internal Factors)
- Highly anxious, controlling
- Heightened sense of justice
- "Paranoid" thinking leads to challenging behaviour
- Difficulties with self-control
- Fear of failure, insecure
- Needs very explicit teaching to understand new ideas and

Student Success Targets

Achievement
- Utilise passion projects to focus on strength-based learning success

Wellbeing
- Focus on giving and receiving respect
- Gently stretch his sense of right and wrong

Engagement
- Positive reward system to reinforce work ethic and progress

School Success Targets

Planning, Programming
- Whole school planning for targeted interventions – everyone must be on board with process and protocol

Positive Community
- Whole school positive behaviour support approach. Move away from a focus on consequences for negative behaviour