FASD:
From Isolation to Inclusion in Australian Schools

by

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ABSTRACT

Fetal Alcohol Spectrum Disorders (FASD) is a medical diagnosis that describes the spectrum of brain injuries, birth defects and developmental disabilities caused by fetal alcohol exposure. Whilst Fetal Alcohol Spectrum Disorders have been acknowledged within Australia as a preventable, yet lifelong disorder since early 1970, they remain poorly understood within the Australian context and even less so within the Australian education arena. Children and young people with FASD may encounter a range of difficulties including executive functioning difficulties, impaired judgment, inability to retain information, difficulty with understanding abstract concepts, sensory processing difficulties, dysmaturity and developing social skills. Adding to these difficulties, students with FASD are often in schools with teachers who have limited knowledge or expertise in FASD. This thesis fills a void in knowledge and research whilst examining the classroom practices required to educate Australian children and young people with FASD. This case study was developed through an Indigenist constructivist qualitative paradigm, including applied practitioner research, qualitative data collection methods and Indigenous knowledge systems, as the research site also has a significant population of Aboriginal people. The findings stress the importance of improved government and school policy which respond positively to the complex learning needs of students presenting with FASD. An inclusive framework of policy, practice and actions for educational professionals working with FASD students is proposed. This framework provides a guide for governments and educational practitioners so they can ensure FASD is acknowledged within and beyond educational settings and that appropriate professional learning and support for students, teachers, parents and other stakeholders is provided.
DEDICATION

This thesis is dedicated to all the children and their families living with Fetal Alcohol Spectrum Disorders. Every day you overcome challenges with such strength and determination.

It is your courage that gives hope.

This thesis pays respect and acknowledges The Institute of Koorie Education staff and community. I acknowledge Professor Wendy Brabham for her commitment and dedication to establishing a culturally safe space for Aboriginal and Torres Strait Islander students to build knowledge through education.
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I feel humbled and extremely privileged to have been welcomed to walk on the traditional Country of an amazing community. Thank you to the men and women of this community in sharing their personal stories, experiences and culture.

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To the most amazing people in my life, Teaghan and Jarred. Thank you for being incredibly strong, independent and caring young people. Walk the path gifted to you with confidence, wisdom and an open heart knowing you are loved bigger than the world and back again.

To my husband Paul, I have looked at you in a million ways, and have loved you in each.
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GLOSSARY OF TERMS

Fetal Alcohol Spectrum Disorders is an overarching term used to describe a range of conditions caused by exposure of the fetus to alcohol, such as FAS, FAE, ARND, and ARBD. The characteristics range from mild to severe with each condition and its diagnosis based on the presentation of characteristic features which are unique to the individual. Fetal alcohol exposure can result in brain-based injuries causing lifelong irreversible difficulties. These difficulties are expressed along a spectrum of disabilities including learning difficulties, memory retention difficulties, speech development, muscle coordination, anger management, behavioural issues and physical abnormalities in the heart, lungs and other internal organs (House Standing Committee on Social Policy and Legal Affairs 2012, p. 1). Due to the variance of diagnostic categories which can be confusing to the reader, the following terminology describes each diagnostic category applied by medical practitioners and health researchers when discussing the impact of prenatal alcohol exposure.

Alcohol Related Birth Defects (ARBD): This disorder includes medical conditions linked to prenatal alcohol exposure such as: heart, kidney, bone problems and other malformations; difficulty seeing and hearing and reduced immune function. Alcohol-Related Birth Defects (ARBD) is rarely seen alone, but rather as a secondary disorder accompanying other FASD conditions (National Institute on Alcohol Abuse and Alcoholism 2006, p. 3).

Alcohol-Related Neurodevelopmental Disorder (ARND): A diagnosis of Alcohol-Related Neurodevelopmental Disorder (ARND) requires evidence of both prenatal alcohol exposure and central nervous system abnormalities, which may be
structural or functional. Functional abnormalities may involve a complex pattern of cognitive or behavioural problems that are not consistent with developmental level, and that cannot be explained by factors other than prenatal alcohol exposure (for example, family background, environment, and other toxicities). Facial abnormalities and growth delay need not be present (National Institute on Alcohol Abuse and Alcoholism n.d, p. 4).

**Dysmorphology:** The study of human congenital malformations, particularly those effecting the morphology (anatomy of the individual). Dysmorphology means ‘the study of abnormal form’.

**Fetal Alcohol Effects (FAE):** Fetal Alcohol Effects refer to the adverse outcomes of prenatal alcohol exposure for those who do not completely fulfil the criteria for a diagnosis of FAS (Clarren and Smith 1978).

**Fetal Alcohol Syndrome (FAS).** Fetal Alcohol Syndrome refers to a constellation of physical, behavioural and cognitive abnormalities resulting from maternal alcohol consumption during pregnancy (Jones and Smith 1973).

**Phenotype:** The characteristics of an organism determined jointly by its genetic constitution and its environment (Coleman 2006).

**Syndrome:** A group of symptoms which consistently occur together.

**Teratogen:** Any substance, organism or process that causes or increases the probability of congenital disorder or birth defect in a baby (Coleman 2006). This could include drugs, alcohol, heavy metals such as lead or radiation. For the purpose of this research study, reference is made to alcohol only.
Within this study, the term FASD is used to capture the broad range of adverse outcomes seen in individuals affected by prenatal exposure to alcohol, unless specification is needed. Additionally, the accepted medical spelling of ‘fetus’ rather than the common usage spelling ‘foetus’ is adopted to coincide with Australian research terms of reference.
Alcohol is widely used in Australian society and is an integral part of social and cultural aspects of Australian life. The majority of Australians consume alcohol at levels that pose a low risk to their health. However, in recent years, increasing proportions of Australians, particularly young women, have been recorded drinking at risky and high levels (Burns et al. 2012). With this in mind and given that approximately half of all pregnancies are reported to be unplanned (Burns et al. 2012, p. 12), it is likely that many women inadvertently expose their unborn children to alcohol before they are aware of their pregnancies. Callinan and Room (2012) explain that although the majority of Australian women will abstain or reduce their alcohol intake following pregnancy awareness, a significant proportion of women will continue to drink during pregnancy and some at high levels (Callinan and Room 2012).

Whether there exists a safe level of alcohol consumption in pregnancy and what this level is, remains an area of debate, although National Health and Medical Research Council (2009, p. 5) strongly recommends that zero alcohol consumption during pregnancy is the safest option. Additionally, the National Health and Medical Research Council explain that there is a lack of clarity in the published literature regarding the safety of low to moderate levels of maternal alcohol consumption during pregnancy, and no safe level has been established regarding fetal harm. This lack of consensus is reflected in the medical advice and guidelines across Australia and other English
speaking countries, arguably leading to confusion for women and polarisation of health professionals and others on this issue.

Although the relationship between alcohol consumption during pregnancy and birth outcomes is far from clear, medical research strongly indicates that there is a broad spectrum of abnormalities related to alcohol consumption during pregnancy that can occur with variable severity (Thomas and Warren 2011; Henderson, Gray and Brocklehurst 2007). This broad spectrum of anomalies is referred to by medical practitioners and researchers as Fetal Alcohol Spectrum Disorders (FASD). Within Australia, the issue of Fetal Alcohol Spectrum Disorders is on the cusp of becoming more widely recognised, discussed and publicly acknowledged. It must be noted that not all prenatal exposure to alcohol results in FASD. The pattern and quantity of alcohol consumption, particularly the timing related to the stage of development of the fetus, together with other socio-behavioural risk factors, appear to increase or decrease the chances of FASD occurring (O’Leary 2004).

Currently within Australia the prevalence rates of FASD are unknown. What is known, is that FASD exists and that within many schools throughout Australia, children and young people living with FASD, their families and classroom teachers are struggling to locate appropriate resources, guidance and expertise to support students presenting with FASD and their individual learning styles. Appropriate and accessible education for all is, in essence, a matter of social justice. Internationally, this issue has come into focus increasingly over the past decades with the development of a series of statements and
declarations on human rights, which include the right to education for all, the rights of people with disabilities, and the right to equitable and accessible education for people with disabilities (UNESCO 1994). Australian educational policy regarding students with disabilities has been bolstered by the enactment of the Disability Discrimination Act 1992 and the associated Disability Standards for Education 2005 which is the national legislation supporting appropriate and accessible education in any educational setting preferred by a student or their family. This legislation does not specify that students must be educated in any specific setting, rather, it ensures that students have the right to an education on the same basis as their non-disabled peers.

Supporting this push toward equitable education for all is a plethora of international research that empirically supports what is known about quality teaching practice for children and young children with FASD (Carpenter, Blackburn and Egerton 2014; Carpenter 2009; Zieff and Schwartz-Bloom 2008; Streissguth, LaDue and Randels 1988). This research seeks to extend the work undertaken in international settings, through providing Australian educational commentary on teaching practices and curriculum delivery strategies that assist them in meeting the unique educational needs of students with FASD. Significantly, this study is conducted in an Australian setting that includes Aboriginal people, as well as individuals from other cultural backgrounds. As a result, the findings presented include approaches that are responsive to building successful learning environments for children and young people with FASD that may also be adopted for students with other diverse educational needs. Identifying these practices and strategies will allow teachers to design curriculum and better accommodate students with FASD, as mandated by the Disability Standards for
Education 2005, providing activities and instruction for students with special education needs ‘on the same basis’ as other students (Australian Government Department of Education and Training 2005, pp 15-18).

Although internationally there is research available outlining quality teaching practices for children and young people with FASD, there is also research illuminating educationalists’ concerns with regards to the absence of knowledge, support systems and overriding legislative policy, as obstacles to the inclusion process (Robertson, Chamberlain and Kasari 2003; Lindsay et al. 2013). Additionally, Westwood and Graham report that, for some general education teachers, having a student with additional educational needs in their class proved to be a major difficulty, due to a ‘lack of appropriate teaching resources, problem behaviours exhibited by some students and a lack of appropriate professional training’ (2003, p. 3). Further research suggests that generalist teachers of students presenting with FASD have limited knowledge about the unique and complex educational needs that contribute to the learning styles and behaviours of students with FASD (Pei et al. 2015). This research recognises current concerns and the vast gaps in the availability and accessibility of local resources, professional learning opportunities and expertise for Australian classroom teachers to inform their curriculum design and delivery and to ensure Australian children and young people with FASD and their families experience success within the educational setting.
With this in mind, the role of education professionals is pivotal in ensuring that students presenting with FASD reach their maximum potential academically and socially throughout their educational journey (Streissguth, LaDue and Randels, 1988). Research by Streissguth, emphasised that education professionals may be the most important and stable influences in the life of a child with FASD and can have the ability to make an enormous difference to the child's self-esteem, provided the educational professionals have the appropriate knowledge, training and skills (1997).

This inquiry examines the teaching practices required to support Australian students presenting with Fetal Alcohol Spectrum Disorders (FASD). The research explores the curriculum design and delivery, whilst taking into consideration the educational system and structural support available and required to contribute to the respectful inclusion and successful outcomes for children and young people with FASD and their families. The study aims to:

- Investigate and report the teaching strategies currently being implemented in one Australian school to inform educational policy and best practice for Australian educational staff working with students presenting with FASD.

- Discover what knowledge Australian teachers currently hold of FASD, as they work alongside children and young people with FASD and their families and how this knowledge informs their current classroom practice.
• Advance educational professionals’ knowledge in relation to the unique and complex learning challenges faced by Australian students presenting with FASD.

• Illuminate educational policy and enhance education practice for education professionals working with children and young people with FASD.

• Bring to the attention of education stakeholders the need of an Australian wide approach to guide and support all Australian education staff when working with children and young people with FASD.

In doing so, it is supposed Australian education teams will be better equipped with a knowledge base to continually refine their pedagogical practice to optimise the physical, social and emotional learning environment to better suit the needs of children and young people with FASD within the educational setting.

The research investigates the strategies and pedagogical practices currently undertaken within one Australian school community, whilst also examining current strategies used in educational settings internationally. The school community contributing to this research project has a high population of Aboriginal students with strong culture and cultural lore. The site is one with a story of colonisation, disempowerment and trauma. Participants who agreed to be involved within this research project did so with informed consent. Furthermore, the participants who contributed to this project were those spending the highest percentage of time with students presenting with FASD: educational workers, parents and caregivers.
It is anticipated that the results of this research project will set in motion new policy and support change for Australian education professionals and students presenting with FASD. This will assist all members of the learning team by providing a range of tools that can be applied to classroom pedagogy and school-community relationships which support learning for students with FASD.

**Significance of the Research**

Currently within Australia, no systematic research exists that defines the educational needs of students with FASD or the appropriate educational practice for meeting their complex learning needs. At present, educational professionals are relying on information gathered from parents and internationally-based websites for support, information and educational techniques.

The significance of this inquiry is that by walking beside classroom teachers currently working alongside of children and young people with FASD and through giving voice to the often silenced voices of parents of students with FASD, new knowledge can be generated which can:

- challenge Australian education departments to acknowledge and provide effective and informed support for students with FASD and their classroom teachers;
• determine actions, policy and practice required to ensure Australian students with FASD unique and complex learning needs are entwined in curriculum design and delivery;
• provide a framework of practice for educators to assist with providing a positive, safe and academically challenging educational experience for children and young people with FASD and their families.

The unique nature of the research site with many Aboriginal participants, and the Aboriginality of the researcher combine to also provide new insights and establish new and modified approaches to the methodology. The development and application of an Indigenist constructivist qualitative paradigm (Denzin and Lincoln 2008) of research is significant in the Australian context.

International literature reviewed (Blackburn, Carpenter and Egerton 2010; Carpenter 2009; Zeiff and Schwartz-Bloom 2008) suggests that, when educational practitioners identify students presenting with FASD, they can begin the process of formulating educational practices to support and adapt their classroom curriculum design and delivery to ensure that students presenting with FASD experience success and inclusivity within the educational setting. By expanding educational practitioners’ understanding of the impact of prenatal exposure to alcohol, along with the adaptations required for FASD students’ additional needs, this investigation aims to improve the educational experiences of classroom teachers working alongside students presenting with FASD and their families.
Within the educational space, Hewlett, Crabtree and Taylor (2008) suggest that 15% of learners learn in a different way from those in which they are generally taught. Students whose cognition involves processing information and methods of learning that are different from the traditional teaching and learning styles are disadvantaged in education, if an inclusive approach is not adopted. For some learners with diverse modes of learning, the process of education becomes a process of rejection. This was evident when former Australian students diagnosed with FASD reflected on their educational journey explaining that their formal education was damaging to their self-confidence, that educators didn’t understand FASD and that they were given little support or encouragement when having difficulties with set tasks (Insight 2013).

For these students and many like them living with FASD, the education environment and expectations can have a lasting effect on their mental and physical health. Supporting these former students’ claims, Hewlett, Crabtree and Taylor (2008) believe that students with learning differences underachieve in the education system, unless they are provided with approaches to teaching and learning appropriate to their needs, or are given educational opportunities within the curriculum to use their personal strengths and learning styles to experience success both in education and societal terms.

For educators to maintain a balance between their obligations to deliver quality education and to also accommodate the learning needs of a diverse range of students, including those with FASD, it is vital teachers are provided with resources and professional learning. This knowledge is necessary to extend teachers’ understanding in
relation to the unique learning needs of FASD students and develop a variety of teaching practices within their classrooms to support inclusive practice.

Currently within Australia there is also a critical shortfall in the knowledge of strategies and classroom practices educators should adopt when working with students presenting with FASD. Adding to this, Australian education departments do not currently offer professional learning programs for staff, nor do they fund experts on FASD to spend time in classrooms supporting or guiding classroom teachers with strategies and ideas to successfully manage a student presenting with a FASD learning profile. Kleinfeld and Wescott (2001), along with Streissguth (1997), believe that one of the difficulties educational professionals face in developing expertise in working with children and young people with FASD is the absence of professional learning opportunities to develop knowledge about FASD. This inhibits their capacity to implement successful learning experiences for the unique and complex learning styles of FASD students. Furthermore, Streissguth, LaDue and Randles (1988) suggest that the role of education professionals is pivotal in ensuring that students presenting with FASD reach their maximum potential, both academically and socially throughout their educational journey.

Kym Crawford, an Australian school principal and researcher, suggests that when educational facilities, families and schools work together with strong support from the Australian government, society will be able to move forward in addressing issues surrounding FASD both educationally and as a nation. Furthermore, Crawford believes
that by ensuring all students presenting with FASD receive appropriate intervention and support to meet their full potential within the educational settings, they will not be *lost* to society in the future through secondary disabilities or difficulties such as emotional and social problems, mental health problems or disrupted school experiences (Crawford 2008, p. 8).

**Why FASD?**

Within Australia the true incidence and prevalence of FASD is currently unknown, as children are not routinely screened for FASD in infancy or childhood (Burns et al. 2012; House Standing Committee on Social Policy and Legal Affairs 2012). Elliott and Bower (2004) along with Harris and Bucens (2003), suggest that limited statistics are available. These are likely to underestimate the true incidence of FASD in Australia, due to methodological problems in study design and difficulties with detection and diagnosis. Australian paediatrician, Dr Doug Shelton, estimated that up to 5% of the Australian population could be affected by prenatal exposure to alcohol. Furthermore, Shelton suggests that more children are born every year with FASD than with Autism, Spina Bifida, Cerebral Palsy, Down Syndrome and SIDS combined. Shelton expresses concern that FASD is not recognised, publicised or given appropriate attention as those conditions listed above (Shelton 2014).

When children and young people with FASD enter the education setting they often arrive with hidden complex learning needs as a result of underlying neurological impairments caused by prenatal exposure to alcohol. What is of importance to
classroom teachers, is that students with FASD can and do learn, but they often learn in atypical ways. Children and young people with FASD often demonstrate subtle and complex difficulties in many areas of functioning. The brain impairments caused by prenatal exposure to alcohol can affect how they perceive new information, how they memorise and learn new skills and ideas, and how they recall previously learned facts, concepts, procedures and skills.

It is imperative that research is undertaken to inform Australian education professionals in relation to FASD, the learning profile of students presenting with FASD and the differing pedagogical approaches that may need to be implemented into classroom curriculum design, decision making and delivery to ensure that FASD students are provided with an optimum learning experience. As students’ progress through the year levels at school, the expectations for functioning independently increase and the FASD student may begin to experience significant difficulty (National Organization on Fetal Alcohol Syndrome, South Dakota 2009). Missed assignments, the inability to manage increasing amounts of information and time, failing socialisation within their peer group and difficulty developing or following internal routines begin to surface and are often misconstrued as non-compliance or misbehaviour. When the nature of these difficulties is not addressed, students with FASD may begin to experience the debilitating realisation of increased failure and less satisfaction in academic classes, more social isolation, low self-esteem and depression (Insight 2013). Once the students with FASD begins to experience failure within their primary support group, secondary disabilities may begin to develop.
Purpose of this Research

The purpose of this investigation is to bring to light the principles and practices required by Australian education professionals to support the learning needs of children and young people with FASD through practitioner research, scholarly research and Australian Aboriginal Knowledge Systems (Rigney 2011). Currently within Australia there is a void in both access to knowledge of FASD as a medical condition and the educational support required by Australian students with FASD. What is known, is that FASD is a lifetime disability and is not curable or reversible. However, early diagnosis and appropriate educational interventions can make an enormous difference to the educational experience of a person living with FASD (Wilson 2013). As a society, we are now beginning to understand and acknowledge that prenatal exposure to alcohol may impact on a developing fetus in a variety of ways. The manifestation of the constellation of birth defects associated with FASD often impacts on the academic performance and behaviours of students presenting with FASD. International research is highlighting how students with FASD can encounter various academic and behavioural challenges, such as short term verbal recall, impaired memory function, sensory processing difficulties, along with a poor ability to plan which can impact on their engagement and success within the learning environment (Carpenter 2009).

As noted, this research was conducted in collaboration with an Australian community with a high population of Aboriginal students and families. To implement and respect Indigenous Knowledge Systems and protocols so that the research maintains and protects Australian Aboriginal cultural values, this research draws on practitioner research focussing on qualitative data collection methods and reflective practice.
conducted in an ethical and culturally appropriate manner. In doing so and to achieve the purpose of the research, it was important to ensure information-rich participants were given a voice to share their personal journeys, with Australian education staff and departments to give breadth and depth to the data. It is this Australian community’s lived experience of education that will bring to light the principles and practices required by Australian education professionals to support the learning needs of FASD students.

Concerns have surrounded the consumption of alcohol during pregnancy since biblical times. However, research and academic interest in the teratogenic effects of alcohol on the developing embryo is relatively recent. Since Jones and Smith (1973) first described Fetal Alcohol Syndrome in the 1970s, considerable interest and research has been conducted in relation to the impact of this disability on students within educational settings in the United Kingdom, Canada and the United States of America.

This research responds to consideration of the highly significant likelihood that there is under-reporting of the syndrome within Australia due to several factors. These factors may include a lack of medical knowledge and medical practitioners’ resources to make an informed diagnosis, a lack of awareness of and recognition by medical practitioners when considering a FASD diagnosis, the lack of availability of specialists in high risk and regional areas trained in making a diagnosis, and paediatricians not being prepared to commit to a diagnosis of FASD. There is a growing consensus both nationally and internationally that FASD needs to be understood as a permanent and invisible disability
with behavioural symptoms (Malbin 2002). Individuals on the FASD spectrum have
significant brain differences that give rise to the disability, due to difficulties in a variety
of areas, including cognition, memory, impulsivity, behaviour and attention. Due to the
damage within the brain, it is imperative that education professionals clearly understand
that FASD is permanent, it is not outgrown and the above primary effects are never
overcome.

Across the education sector, students presenting with FASD may be an enigma for
school personnel, especially when the student presents without a diagnosis or when the
educational team is unaware of a diagnosis (Streissguth 1997). Students with FASD
may need to be taught information that other students learn through experience.
Thomas and Weston (2014) believe that it is important that educational teams
understand that students with FASD can learn, however, they require repetition, less
distracting environments, more specialised practices, and in some cases, more positive
feedback and encouragement. These students are often highly motivated to please
teachers, but may have difficulty relating to teachers who do not give sufficiently clear
instructions or who are inconsistent with their classroom routines (Streissguth 1997).
Tindle (2002) expands on Streissguth (1997) by explaining that a FASD student’s
cognitive and behavioural difficulties can manifest themselves as restlessness,
distractibility, and inability to conform and adhere to rules of the educational
environment. Abel (1998) claims that FASD students quickly come to the attention of
their teachers and are often labelled with Attention Deficit Hyperactivity Disorder
(ADHD). Extending on this, Peadon and Elliott (2010 p. 509) state that although
Attention Deficit Hyperactivity Disorder is diagnosed in up to 94% of individuals with
heavy prenatal alcohol exposure, the exact relationship between FASD and ADHD is unclear.

Additionally, Abel’s (1998) research indicates that students prenatally exposed to alcohol often fall behind their peers in curriculum areas, such as mathematics and reading. Earlier research undertaken by Morse (1993) highlighted that although children and young people with FASD may recognise words, their reading comprehension is lower than their peers and their writing and drawing skills are below normal. Adding to this, students presenting with FASD may also experience a range of difficulties within the educational setting due to both the primary and secondary disabilities that can co-exist with FASD. Secondary disabilities are disabilities that develop as a result of their primary cognitive difficulties. These secondary disabilities may include mental health problems, including debilitating emotional and behavioural disorders, hyperactivity, aggression, sleep disorders, social skill deficits, withdrawal, lying and anxiety (Burd et al. 2003; Spohr and Steinhausen 1996). The results of a longitudinal study investigating secondary disabilities among 415 individuals aged between 6 and 51 years of age with FASD conducted by Streissguth et al. (1994) highlighted that more than 90% experienced mental health issues, 39% of the children demonstrated inappropriate sexual behaviour and more than 60% of the adolescents/adults had a disrupted school experience. It is imperative that classroom teachers are equipped with the skills and knowledge to ensure children and young people with FASD feel safe and secure within their educational setting therefore reducing the possibility of secondary conditions co-occurring.
In working towards filling a void in knowledge and support, this enquiry examines and reports the educational approaches currently being undertaken within one Australian school with a number of identified and diagnosed children and young people with FASD. This research pursues the proposal that, through advancing Australian classroom teachers’ professional knowledge in relation to the unique and complex learning challenges faced by FASD students, Australian educational teams can be equipped with the resources and knowledge to adopt appropriate pedagogical practice with the aim of providing a learning environment to better suit the individual challenges faced by students with FASD.

**Structure of the Thesis**

Chapter One has introduced the nature of the research study whilst contextualising and highlighting the current void in knowledge surrounding the educational needs of Australian students presenting with FASD. Chapter one has also acknowledged the significance of the research project and provided a clear statement of the problem being investigated.

Chapter Two reports scholarly research, examines the medical aspects of FASD with particular attention being given to the prenatal effects of alcohol and the diagnosis of FASD.
Chapter Three provides a detailed account of the history of FASD within Australia and the research currently being undertaken by Australian health practitioners. This chapter also highlights the continuing efforts of Australian non-government agencies to support families and individuals living with a FASD.

Within Chapter Four, the educational implications that students with FASD are faced with daily, are discussed. As well, the current and inclusive education philosophies and principles within Australian educational environments, are reported. Chapter Four also explores the primary and secondary disabilities that co-exist with FASD and the implications which both students and educational professionals may encounter within the classroom.

Chapter Five presents the design methodology of the study and explains in detail the specific processes that were undertaken to give the research rigour and credibility.

Chapter Six presents the emerging themes identified through the data including school documents in the public domain, classroom observations, semi-structured interviews with classroom teachers and Yarning Circles with parents and caregivers of students presenting with FASD.
In conclusion, Chapter Seven discusses the findings and recommendations, including a proposed framework for educational professionals outlining interconnected practice for achieving inclusion of students presenting with FASD.
CHAPTER TWO
UNDERSTANDING FETAL ALCOHOL SPECTRUM DISORDERS

For educators to appreciate the complex challenges faced by students with FASD in educational settings, it is imperative they are well informed about FASD and the long term affect it has on the individual. According to Zevenbergen and Ferraro, information in relation to FASD not only assists educational workers and families to understand the syndrome’s unique challenges, but also facilitates appropriate treatment, intervention and educational planning (2001, p. 124).

Fetal Alcohol Syndrome was recognised as a medical condition in 1973 by Jones and Smith, however several articles in relation to the impact of prenatal alcohol exposure on the unborn child divulge a longer history of awareness. Historical literature, from pre 18th century Britain, indicates that there has been longstanding documented links between alcohol as a teratogenic and birth defects. Researchers, Calhoun and Warren (2007), Abel (1999) and Warner and Rossett (1975), have identified literature from the time of Sparta, as well as biblical scriptures, that have identified the dangers of consuming alcohol during pregnancy. Calhoun and Warren (2007) suggest the belief was not that drinking during pregnancy harmed the child, but that intoxication at the moment of conception led to deformity of the unborn child. Abel (1999) observes that, in Carthage, it was reported that there was a prohibition against couples drinking on their wedding night to prevent producing an affected offspring. Furthermore, Fisher extends this by explaining that, even Aristotle who is often viewed as the founder of
western thought, proclaimed ‘Foolish, drunken and harebrained women most often bring forth children like unto themselves, morose and languid’ (1985, p. 265).

Warner and Rossett refer to a 1736 comment in a report that was presented to the British House of Commons stating, ‘Unhappy mothers habituate themselves …and their children are born weak and sickly and often look shrivelled and old as though they had numbered many years’ (1975, p. 1397). Later in 1985, when discussing the history of FASD, Plant refers to a quote from the book of Judges 13:3 in the Old Testament in which an illustration of an angel warning the mother of Samson that she would bear a son and ‘Now therefore beware l pray thee and drink not wine nor strong drink’ (Plant 1985, p. 6).

This chapter presents an account of medical research and history with regards to Fetal Alcohol Spectrum Disorders, illuminating the possible lifelong implications to individuals prenatally exposed to alcohol. In support of Zevenbergen and Ferraro (2001) who indicate that knowledge of FASD as a medical condition can result in appropriate educational programming, this chapter provides important knowledge for professional staff working within the education arena alongside FASD students and their families in relation to:

- the effects of alcohol on the unborn fetus;
- the teratogenic effects of alcohol; and
- diagnosis of Fetal Alcohol Spectrum Disorders in Australia.
The Effects of Alcohol on the Unborn Fetus

Over forty years of medical research has indicated that prenatal alcohol exposure may cause a range of cognitive impairments and physical alterations to a developing fetus (Manning and Hoyme 2007; Bertrand et al. 2005; Jones and Smith 1973). The impact of maternal consumption of alcohol on birth weight and development of children was noted in the 1700s throughout the “Gin Epidemic” in England (Warner and Rossett 1975). Gin became the drink of choice for many as it was cheap and easy to access. Women favoured gin and purchased it from local pharmacists as a medicinal drink. The women would mix the gin with warm water to soothe the nerves and it was often known as Mother's Ruin (The East End 2014). England’s gin epidemic flooded the country with cheap gin and many blamed this overabundance of gin consumption for an increased rate of fetal and infant mortality and social disorder (Golden, 2005; Armstrong, 2003; Berg, 1995). Although at this time many were concerned by the increase in crime and social disorder, increased fetal and infant mortality, regardless of class, was brought to the forefront (Armstrong, 2003, p. 26).

The term, “Fetal Alcohol Syndrome” (FAS), was introduced by Jones and Smith in 1973 to describe a pattern of physical abnormalities observed in children born to confirmed alcoholic mothers in the United States, although Lemoine et al. (1968) had described a similar pattern of physical malformations in children of alcoholic mothers in France five years earlier. In the research article entitled ‘Outcome of Children of Alcoholic Mothers’, Lemonie et al. (1968) established a link between prenatal alcohol consumption by mothers and the effects of this consumption on their new-born babies.
Although this research established a link, it did not extend to providing diagnostic criteria or definition of disorders caused by prenatal alcohol exposure.

It was in 1973 that Jones and Smith commenced publishing data and information they were gathering in relation to prenatal exposure to alcohol and birth malformations, in the British Medical Journal, *The Lancet* (Jones and Smith 1973). Three British Medical Journal articles appeared within months written by Jones and Smith and their colleagues who were paediatric dysmorphologists. The first article published by Jones, Smith, Ulleland and Streissguth (1973) entitled, ‘Patterns of Malformation in Offspring of Chronic Alcoholic Mothers’, presented a detailed report of eight unrelated children, all from differing ethnic backgrounds born to alcoholic mothers. The article described several common irregularities among these children, including developmental delay, microcephaly, prenatal and postnatal growth deficiency, short palpebral fissures, epicanthal folds, small jaws, flattened mid-face, joint anomalies and altered palm crease patterns. Jones et al. (1973) concluded their clinical observations claiming that maternal alcoholism can cause serious abnormal fetal development.

It was in their second article that Jones and Smith (1973) coined the term, “Fetal Alcohol Syndrome”. Within this article they discussed three further infants identified as been born to alcoholic mothers and presenting with alcohol related birth defects. Although one of these infants passed away at five days of age, a necropsy revealed serious dysmorphogenesis of the brain. This research also noted that the children examined were from three different ethnic groups and of diverse backgrounds. Two of
the children studied were raised in foster homes, however Jones and Smith suggested that there was no evidence to indicate a more stable home environment would result in better progress in functioning.

In their third article published in June 1974, Jones et al. provide further evidence for the teratogenicity of alcohol using data from the Collaborative Perinatal Project of the National Institute of Neurological Disease and Stroke. Although these data were retrospective and based on chart reviews, they indicated that children born to alcoholic mothers presented with characteristics of Fetal Alcohol Syndrome such as growth deficiency, small head circumference and impaired intellectual performance. In summary, Jones et al. (1974) suggested that, ‘the frequency of adverse outcomes in the pregnancies of chronically alcoholic women is of such a magnitude that serious consideration should be given toward early termination of pregnancy in such women’ (Jones et al. 1974, p. 1078).

It is clear from the work undertaken by Jones, Smith and their colleagues, that it was their initial belief that FASD may only occur in children born to women who consume large amounts of alcohol. This is not the case. As research has progressed, the National Health and Medical Research Council (2009) guidelines on reducing the health risks associated with alcohol, recommend that not drinking alcohol during pregnancy is the safest option. Additionally, Hepper (2014) outlines that any amount of alcohol can readily pass through the placenta and enter the blood stream of the fetus, where it can adversely affect its development. Mukherjee explains this process in more detail:
The alcohol goes across the placenta to the foetus via the bloodstream and as the foetus’ liver isn’t fully formed; it relies on the mother’s liver to metabolise the alcohol. When the alcohol passes from the mother into the foetus’ body, it lacks oxygen and nutrients required for the brain and organs to grow properly. The white matter in the brain which is responsible for speeding up the processing of information is sensitive to alcohol thus when a mother drinks, it affects the development of their baby’s white matter (Drinkaware 2016, n.p.).

As Mukherjee explains, an individual’s white matter is the part of the brain responsible for the speed of an individual’s ability to process information. It is the tissue through which messages pass between different areas of gray matter within the central nervous system. In support, Fortier et al. (2014) further explains that frontal white matter tracts are the pathways that connect the frontal lobes to the rest of the brain. The frontal cortex of the brain is the integration center for all other parts of the brain that are important to behavior and cognitive function. It is these pathways, as Frontier et al. (2014) explains, that support self-monitoring, planning, judgment and reasoning. Frontal pathways also allow flexibility in learning and memory, and allow us to change and learn new patterns of behavior. Damage within the brain caused through prenatal exposure to alcohol can have a long-lasting impact on children and young people with FASD in all areas of their learning.
The historical background, in relation to prenatal alcohol exposure, provides a foundation for extending educators’ knowledge and understanding of the long history related to FASD and a greater understanding that FASD is not a new medical condition. Moving from the historical acknowledgment of the effects that can occur due to prenatal alcohol exposure, to the impact of alcohol on the developing fetus, and the development of vital functions and organs, provides education staff with a holistic overview of FASD as a medical condition. This can inform their curriculum design and delivery.

Given the very limited knowledge available to educators and families as they attempt to teach and support students with FASD, this research seeks to identify what further questions educators have to answer in order to understand the issues that they are attempting to address and to understand what knowledge would further improve their practices. Also, by working closely with one community over time, the research seeks to provide evidence of practices that work, how these educators identify and overcome the barriers to student learning and then how to share this with other educators, governments and policy makers for improved practices in schools for students.

**The Teratogenic Effects of Alcohol**

Interest in the impact of maternal alcohol consumption on the developing fetus has increased significantly since the description of Fetal Alcohol Syndrome by Jones and Smith (1973) and Lemoine et al (1968) four decades ago. Research conducted since 1973 has shown that although a number of the abnormal facial features diminish over time, central nervous system dysfunction, including the long-term intellectual,
behavioural, psychological and social maladjustment, remain throughout life. FASD occurs as a result of alcohol, a behavioural teratogen, on the fetus when alcohol crosses the placenta from a mother’s bloodstream into her developing baby’s blood, maintaining equivalent blood alcohol concentrations in fetal circulation to that of the mother (Stratton, Howe and Battaglia 1996). Stratton, Howe and Battaglia explain further that, ‘of all the substances of abuse, including heroin, cocaine, and marijuana, alcohol produces by far the most serious neurobehavioral effects in the fetus’ (1996, p. 35). This is because alcohol present in a developing baby’s bloodstream can interfere with the growth of critical organs and body parts, including the brain.

The likelihood of having a child with FASD increases depending on the amount and frequency of alcohol consumed during pregnancy (May and Gossage 2011, p. 17). In the first half of the century researchers believed that the placenta acted as a barrier protecting the unborn child from toxic chemicals and disease. It wasn’t until the 1950s and 1960s that researchers discovered diseases such as rubella and environmental agents, such as mercury, were teratogenic substances or agents that can interfere with normal embryonic development (Scialli 1992). Only after this period was there concern in relation to the risk of exposure to teratogenics and focus was predominately placed on the birth defects to the unborn fetus within the first trimester. However, Coles (1994) acknowledges that researchers now have medical evidence that alcohol can have negative effects throughout gestation.
Alcohol is a behavioural teratogen and a neurotoxin (Golden 2005, p. 3). It is an agent that is known to adversely affect fetal development and cause long term birth defects, brain damage and behavioural problems. Zevenbergen and Ferraro (2001) explain that prenatal alcohol exposure can affect the neural circuitry of the brain, resulting in an imbalance in both neurochemical and electrophysiological functions. O’Leary (2004), Streissguth (1997) and Coles (1994) believe that the pattern and quantity of alcohol consumption, along with the timing related to the stage of development of the fetus, together with other socio-behavioural risk factors, appear to increase or decrease the chances of FASD occurring.

The relationship between alcohol consumption during pregnancy and birth outcomes is far from clear, although research is still being undertaken (Henderson, Gray and Brocklehurst 2007). Medical research by Warren, Hewitt and Thomas, (2011) indicates that there is a broad spectrum of abnormalities related to the consumption of alcohol during pregnancy and that can occur with variable severity. The stage of fetal development during which exposure to alcohol occurs determines which system is affected as can be seen in Figure 1.

An ideal mechanism for depicting peak periods of fetal vulnerability to alcohol exposure is illustrated in Figure 1 below (Coles 1994). Within this illustration, the darkest segments of each timeline indicate the periods of greatest fetal sensitivity to alcohol exposure for each organ system that is developing at any point in time. Teratogenic exposure at this time has the potential for major interruption or disturbance
of structural development. The lighter segments of each time line indicate periods of continued sensitivity to alcohol exposure, during which physiological abnormalities and minor structural defects could still occur.

![Figure 1: Stages of development in which a fetus undergoes in forming vital functions and organs (House Standing Committee on Social Policy and Legal Affairs 2012, Source Exhibit 17).](image)

Whilst the teratogenic effect of alcohol is considered to be dose-related, there is conflicting research regarding the safety of pre-natal alcohol consumption. It is accepted within the health and medical field that there is no known safe amount of alcohol or safe time to consume alcohol throughout a pregnancy. Chudley et al. (2005) explain that, whilst alcohol can have an adverse impact on the development of the fetus from two weeks post conception to full term, there are critical periods of development.
in which the fetus is at greater risk for example, as O’Leary explains, ‘exposure between the fourth and ninth weeks is the critical period for malformation of the brain and other cranial structures’ (2002, p. 6).

Numerous studies have been undertaken to investigate the effects from prenatal alcohol exposure on both the physical and cognitive development of children born with FASD (Abel 2004). These studies indicate that prenatal alcohol exposure may cause growth deficiencies and changes to facial features or dysmorphia (Kodituwakku 2009 and Spohr 2008). Accardo and Whiteman define dysmorphia as abnormalities in the shape or form of human features ‘caused by genetics or other prenatal influences’ (2002, p. 130). Additionally, exposure to alcohol during gestation may affect the development of the central nervous system. Damage to the central nervous system may be exhibited by microcephaly, an abnormally small head circumference, that suggests reduced brain volume, damage to specific structures of the brain, and/or deficits in cognitive functioning (Kodituwakku 2009; Betrand et al. 2005; Kable and Coles 2004 and Accardo and Whiteman 2002).

Within the classroom, teachers may observe cognitive functioning difficulties in behaviours, such as poor planning, difficulties in concentration and attention, a failure to learn from consequences and some students with FASD may encounter difficulties with their memory. The cognitive impairments linked with the effects from prenatal alcohol exposure vary from global intellectual impairments to specific processing deficits, such as reduced processing speed, difficulties with encoding, and/or inefficient
integration of verbal and visual information (Chasnoff et al. 2010; Koditiwakku 2009 and Kable and Coles 2004).

Of importance to classroom teachers, Green suggests that although some level of cognitive deficit characterises many individuals with FASD, most children and young people with FASD ‘will not have an intellectual disability’ (2007, p. 104). In clarifying, the Australian Institute of Health and Welfare (2015, n.p.) defines an intellectual disability as ‘a developmental disorder characterised by an intelligence quotient (IQ) below 70’ with the average IQ for the general population being 100. In supporting Green, Kodituwakku (2009) notes that children with FASD show diminished intellectual functioning, with average IQ scores falling within borderline to below average ranges. Zieff and Schwartz-Bloom (2008) additionally reveal that students presenting with FASD accompanied by an average IQ are at most risk to be misunderstood by classroom teachers as they are higher functioning, show no physical indication of brain damage and are usually quite verbal and social (2008, p. 76).

A key aim of this project is to discover what knowledge teachers have about FASD as they work with their students. The inquiry examines teachers’ current knowledge, how students are identified and then how these two elements come together to enable teachers to provide appropriate learning experiences. Equally, the work seeks to reveal any shortcomings in the knowledge of education professionals, and families, so that these too may inform new goals and practices to be recommended to government notably with regard to teacher professional learning to support the success of students.
Diagnosis of Fetal Alcohol Spectrum Disorders

Within Australia, FASD is emerging as a public health issue even though prevalence rates are still unknown. As with other diagnoses such as Autism, Oppositional Defiant Disorders and Attention Deficit Hyperactivity Disorder, an early diagnosis of FASD along with early intervention is essential in ensuring approved outcomes and quality of life for FASD individuals and their families. As previously highlighted, FASD is an umbrella term that encompasses a series of diagnoses characterised by physical and/or central nervous system abnormalities caused by prenatal alcohol exposure.

Fetal Alcohol Syndrome (FAS) is the most commonly known of these diagnoses for two reasons. Firstly, it was the diagnosis initially coined by Jones and Smith (1973) and secondly because FAS presents with visible physical features such as distinct facial dysmorphology. In comparison, Paley (2009) implies that although FAS has specific physical features, other diagnoses which fall under the term FASD are often referred to as invisible or unseen disabilities. This is because the prenatal damage occurs in the brain region and therefore is not visible, but rather presents as a range of cognitive and functional issues often characterised through behaviours.

When exploring FAS, Sokol, Delaney-Black and Nordstrom (2003, p. 2997) explain that the physical features of FAS include facial differences, such as small eyes that may appear widely spaced, a flattened or long smooth philtrum which is the ridge between the upper lip and the nose, a thin upper lip and inner epicanthal folds. The facial differences associated with FAS, explained by Mattson and Riley (2011), are thought to
occur when significant alcohol is drunk during the first trimester of pregnancy suggesting that if alcohol is not consumed during this short period, the child may not exhibit the facial anomalies required for a confirmed diagnosis of FAS. A further characteristic of FAS, as described by Gray and Mukherjee (2007), includes delayed growth, such as below average height, weight or both, along with central nervous system abnormalities that can include structural, neurological, functional or a combination of the three. Warren et al. (2011) explains that there is no period within pregnancy in which alcohol can be consumed without risk. The timing of fetal exposure to alcohol can result in differing harms and during the most sensitive periods of fetus development alcohol exposure can result in structural and/or functional impairments. According to Church (1996, p. 85), the facial characteristics of FAS have become the hallmark of this syndrome and are the most distinctive part of the condition. Even though the facial anomalies typically make the syndrome noticeable in the post birth period and infancy, they may dissipate with age therefore minimizing the opportunity for a diagnosis if not detected early in life (Greenbaum et al. 2009).

Furthermore, for a confirmed diagnosis of FAS, prenatal and postnatal growth deficits must be at or below the tenth percentile. There must be evidence of central nervous system complications such as structural, functional or neurological deficits (Chudley et al. 2005; Stratton, Howe and Battaglia 1996). In addition, Chudley et al. (2005) explain that although people presenting with FAS can present with other physical malformations, such as club hands or feet, they do not constitute part of the diagnostic criteria due to the fact that many of them are not specific to FAS, although they are noted at the time of diagnosis. Chudley et al. (2005) also add that in some cases,
individuals presenting with only some of the physical features required for an FAS diagnosis may be diagnosed with partial FAS (PFASD).

**Figure 2:** Facial features of individuals with Fetal Alcohol Syndrome (Streissguth et al. 1994).

The Centers for Disease Control and Prevention (2004) indicate there are major factors that contribute to the widespread uncertainty and failure to recognise and diagnose FASD in primary paediatric care settings, resulting in underestimates of the prevalence and impact of FASD. They extend by indicating that over time, clinicians haven’t had access to a uniformly accepted diagnostic criterion which has hampered their efforts to screen, identify and diagnose children with FASD. Another contributing factor in the difficulty faced by medical practitioners when diagnosing FAS/FASD is that diagnosis is based on a clinical examination of characteristics and facial features, but not all children with FASD appear or act the same. Because each of the symptoms has a broad range of differential diagnoses, it is easy for clinicians to miss or misdiagnose FASD.
Furthermore, previous guidelines, including those in the 2004 Institute of Medicine report, did not account for children of differing racial and ethnic groups or individuals of different ages. Adding to this, symptoms such as growth impairment, cognitive impairment and learning disabilities can have a range of causes. Some of these causes or disorders have higher visibility and recognition than FASD, leading to misdiagnosis, or at least failure to include FASD in the total diagnosis. For example, physicians are aware of the high prevalence of Attention Deficit Disorders, but might not link attention problems to FASD. Furthermore, there are a number of disorders that share similar characteristics and behavioural traits as FASD.

Figure 3, compiled by Bruer-Thompson (2010), highlights overlapping behavioural characteristics and related mental health diagnoses that can be displayed in various conditions. An example is the comparable behaviours and characteristics between children with FASD and children presenting with Oppositional Defiant Disorder. Bruer-Thompson indicate children presenting with either disorder will often exhibit the following behaviours:

- lose their temper;
- argue with adults;
- be perceived as defying or refusing adult requests or rules;
- deliberately annoy other people;
- blame others for their mistakes;
- be touchy or easily annoyed by others, spiteful or vindictive and
- often swears or uses obscene language.
**Figure 3:** Comparable table indicating overlapping behavioural characteristics of FASD with related mental health diagnoses in children (Bruer-Thompson 2010).

<table>
<thead>
<tr>
<th>Overlapping Behavioral Characteristics &amp; Mental Health Diagnoses</th>
<th>FASD</th>
<th>ADD/ADHD</th>
<th>Sensory</th>
<th>LD/Dis.</th>
<th>Autism</th>
<th>BPD</th>
<th>RAOD</th>
<th>Depression</th>
<th>ODD</th>
<th>Trauma</th>
<th>Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easily distracted by extraneous stimuli</td>
<td>X</td>
<td>X</td>
<td></td>
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<td></td>
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<tr>
<td>Developmental Dysmaturity</td>
<td>X</td>
<td></td>
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<tr>
<td>Feel Different from other people</td>
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<td>X</td>
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<tr>
<td>Often does not follow through on instructions</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Often interrupts/interrupts</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td></td>
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<tr>
<td>Often engages in activities without considering possible consequences</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>X</td>
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<tr>
<td>Often has difficulty organizing tasks &amp; activities</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>X</td>
<td>X</td>
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<tr>
<td>Difficulty with transitions</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>No impulse control, acts hyperactive</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Sleep Disturbance</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
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<tr>
<td>Indiscriminate affectionate with strangers</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
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<tr>
<td>Lack of eye contact</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Not cuddly</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Lying about the obvious</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Learning lag: “Won’t learn, some can’t learn”</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
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<td></td>
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<tr>
<td>Incessant chatter, or abnormal speech patterns</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Incessant startle response</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Emotionally volatile, often exhibit wide mood swings</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>Depression develops, often in teen years</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td></td>
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<tr>
<td>Problems with social interactions</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Deficit in speech and language, delays</td>
<td>X</td>
<td></td>
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<tr>
<td>Over/under-responsive to stimuli</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
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<td></td>
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<tr>
<td>Perseveration, inflexibility</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Escalation in response to stress</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Poor problem solving</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Difficulty seeing cause &amp; effect</td>
<td>X</td>
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<tr>
<td>Exceptional abilities in one area</td>
<td>X</td>
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<tr>
<td>Guess at what “normal” is</td>
<td>X</td>
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<tr>
<td>Lie when it would be easy to tell the truth</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Difficulty initiating, following through</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Difficulty with relationships</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Manage time poorly/lack of comprehension of time</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Information processing difficulties</td>
<td>X</td>
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<tr>
<td>Speech/language: receptive vs. expressive</td>
<td>X</td>
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<tr>
<td>Often loses temper</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Often argues with adults</td>
<td>X</td>
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<td>Often actively defy or refuses to comply</td>
<td>X</td>
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<tr>
<td>Often blames others for his or her mistakes</td>
<td>X</td>
<td>X</td>
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<td>X</td>
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<tr>
<td>Is often touchy or easily annoyed by others</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Is often angry and resentful</td>
<td>X</td>
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In 2012, the Australian National Preventive Health Agency indicated that FASD is also difficult to diagnose within Australia due to many factors including a lack of agreement in relation to the complexity of diagnostic tests and the reluctance of medical and health professionals to diagnose due to the social stigma attached with this disorder. Anne Russell, a parent and public advocate for families living with FASD, supports this notion by explaining that:

Many people who have approached our support group discuss their concerns around the stigma attached to the diagnosis and their concerns that people will blame them for their child’s difficulties. (Russell 2014)

Additionally, in a report prepared for the Foundation of Alcohol Research and Education by Breen and Burns, one participant reporting their experience with a paediatrician states:

He was born with very obvious signs of FASD, looking back, but the paediatrician was reluctant to hang that label on him because he thought it would make the child less able to find foster parents and, as he said to me, it’s not a nice label, you don’t want that label. (2012, p. 15)
Another caregiver referred to in Breen and Burns states:

One of the huge frustrations is not being able to get him diagnosed just because he doesn't have any facial pathology before he left hospital the paediatrician there was concerned that he may suffer from FAS because his mother was alcohol dependent but because he didn't have any of the features they didn't believe he had a problem. (2012, p. 15)

Many of the Australian parents and caregivers who contributed to Breen and Burns report highlighted the difficulty in obtaining a diagnosis, stating that the process was often lengthy and unclear, particularly for those born without the facial characteristics of FAS and those not diagnosed at birth. Furthermore, some participants described the frustration they experienced due to the lack of awareness around FASD amongst Australian medical professionals and services with the capacity to make a diagnosis, and some medical professionals unwilling to make a diagnosis for fear of ‘labelling’ the child (Breen and Burns 2012, p. 15).

With an understanding of the confusion for medical staff diagnosing FASD and the difficulties faced by parents in obtaining a diagnosis for their child, an Australian steering committee of health experts was formed. This expert group identified the urgent need for a diagnostic instrument to guide Australian medical practitioners. As a result, the group developed a diagnostic instrument and supporting resources which were trialled nationally in 2015. Feedback from medical practitioners indicated that
these tools were considered ‘useful, flexible and informative’ (Bower and Elliott 2016, p. 3). In April 2016, the Australian Guide to the Diagnosis of FASD was released to support the Australian Medical profession.

Of major significance in the development of the Australian Guide to the Diagnosis of FASD was that, the expert panel ‘adopted the concept that Fetal Alcohol Spectrum Disorder be used as a diagnostic term’ (Bower and Elliott 2016, p. 3). This is notable, as internationally, FASD is not a diagnostic term, but a term applied to describe a group of conditions that can occur due to prenatal exposure to alcohol. In adopting FASD as a diagnosis, Bower and Elliott explain that, ‘it simplifies the terminology and emphasises the primary importance of the severe neurodevelopment impairment that results from an acquired brain injury caused by alcohol exposure before birth’ (2016, p. 4).

When diagnosing FASD, a multidisciplinary approach is required, with paediatricians, psychologists, speech and language pathologists and occupational therapists working together to enable an accurate assessment of the range of outcomes that may be associated with prenatal exposure to alcohol (Peadon et al. 2008). These professionals work together gathering information from the patient and family in relation to, their history, developmental concerns, behavioural and social development, their growth and known information in relation to adverse prenatal and postnatal exposures such as alcohol. In ensuring medical practitioners are equipped with a unified guide, the Australian Guide to the Diagnosis of FASD includes:
• a diagnostic assessment form to assist medical practitioners in conducting the assessment and recording the information;

• a FASD diagnostic assessment summary form used to summarise information required for a diagnosis; and

• an Australian FASD management plan form in which patient’s goals, referrals and support strategies are documented along with a FASD information sheet which provides information and resources for individuals after a diagnostic assessment including referrals to support services and therapy (Bower and Elliott 2016, p. 8).

Bower and Elliott (2016) explain that, through the implementation, accessibility and the availability of the Australian Guide to the Diagnosis of FASD, medical practitioners can be equipped with the confidence, knowledge, information and clear diagnostic criteria to firstly, consider FASD as a diagnosis; secondly to manage or refer families to appropriate health and support practitioners; and thirdly take steps in the prevention of FASD within Australia. In providing Australian medical clinicians with a detailed and informative guide, Bower and Elliott (2016) have taken the first step in ensuring diagnosed and undiagnosed Australian FASD individuals and their families are able to access informed health care providers and support services. In parallel to the changes currently being implemented in the Australian medical field in relation to the national and informative Australian Guide to the Diagnosis of FASD, this research adds to the knowledge of educational staff as well as to practice and support for FASD students and their families. In doing so, this research provides an inclusive framework of principles, policy and practice for professionals working with FASD students in the education
arena to ensure their unique and complex learning and social needs are implemented in the design and delivery of curriculum.

The literature presented here emphasises the struggles the medical profession has experienced historically in understanding, diagnosing and responding to FASD. With such a brief history and lack of knowledge and deep understanding, the challenges for teachers and family members of FASD young people are significant. With gaps in the knowledge of medical practitioners identified, the fundamental need for more information and research is clear. The striking need for the provision of deep relevant information for educational staff is evident. All those professionals, and family members, working with FASD students must be well equipped with background knowledge of FASD and its diagnosis, to support FASD students and each other.

The literature to date suggest that, while medical knowledge of FASD assists members of the medical profession to diagnose and support Australian families living with FASD, knowledge regarding the unique learning styles and needs of Australian FASD students is not readily available. This is a priority focus area for this project as it seeks to explore what knowledge teachers do have, how they keep their knowledge up to date, support for their professional learning and the resources provided to them to enable them to make expert decisions about curriculum and teaching practice which support learning for their students.
CHAPTER THREE

HISTORY OF FETAL ALCOHOL SPECTRUM DISORDERS IN AUSTRALIA

Some ‘issues are organised into politics, while others are organised out’

(Schattschneider 1975, p. 49).

As the previous chapter indicated, Fetal Alcohol Spectrum Disorders includes a broad spectrum of preventable and irreversible lifelong intellectual and developmental conditions caused by prenatal exposure to alcohol. This chapter reports the history of Australian policy and action associated with FASD, including the formation of support groups and government initiatives. As Schattschneider observed, some ‘issues are organised into politics, while others are organised out’ (1975, p. 49). Fetal Alcohol Spectrum Disorders are arguably one such broad issue.

At any given time, multiple concerns are initiated by interest groups from inside or outside governments and many groups struggle to attract serious attention from policy makers to advance their aim of gaining issue status on the formal and public agendas. Just as issues advance through what is known as the policy cycle is dependent on the actions of policy makers, their decision-making may also stall or suppress grievances. Any progress may be stifled by the changing fortunes of governments of the day. This raises interesting questions. What happens when the same issue is treated differently in two similar countries, states or jurisdictions? How is it that the same issue is organised
around politics in one country, but effectively organised around scientific knowledge and good practice in another? A key example of these discrepancies is that of the lifelong implications faced by parent and caregivers of individuals living with the effects of prenatal exposure to alcohol, and most importantly, of the individuals with FASD themselves.

By the early 1990s, FASD had gained sufficient public attention in North America to be prioritised on both the formal and public policy agendas in the United States of America and in the western provinces and territories of Canada. By the end of that decade, the Canadian government had prioritised the issue with a commitment to funding program implementation at a regional level. Moreover, these policies were sustained by powerful advocacy groups and committed lobbyists from within the professional community.

By comparison, Australian efforts to recognise and manage FASD have fallen behind other countries such as the UK, Canada and the USA. North America leads the world in the recognition, diagnosis and response to FASD. As highlighted in the House Standing Committee on Social Policy and Legal Affairs, within Washington, multi-disciplinary diagnostic clinics have been operating since 1993 with 61 to 90 percent of North American paediatricians being able to correctly identify FASD (2011, p. 3). O’Leary (2004) supports this claim, stating that within Australia the issue of FASD has not been the subject of policy development or extensive research. Furthermore, O’Leary (2004) believes that within Australia there is an absence of knowledge, both in the general
community and by health professionals, with regards to the risks associated with alcohol consumption during pregnancy. Additionally, the Australian Foundation for Alcohol Research and Education (2011) points out that when FASD programs have been developed and implemented within Australia. They have often been inconsistently applied and adopted across states and territories. Therefore, new programs have been established with few opportunities for sustainability, let alone extension, expansion or learning from previous initiatives. This is a major concern for Australia and more research is needed to inform sound programs and to support their success and sustainability.

There is a clear understanding that, currently throughout Australia, classroom teachers are alone in their efforts to decode the complex learning needs of students presenting with FASD. The literature explored here analyses and reports policies and practices which currently are available to Australian education staff and stakeholders in their efforts to provide an inclusive and engaging educational experience for both students with FASD and their families. The voices of the participants reported in this project, enable them to take the lead in promoting and operationalising such an imperative need for the Australian education system. The research seeks to understand the current experiences within the education system in firstly recognising FASD as a growing area of concern and secondly, in providing education staff with the skills, knowledge and resources to successfully ensure quality education and respectful inclusion of children and young people with FASD and their families.
The first publicly available media article, produced within Australia acknowledging the impact of prenatal exposure to alcohol, appeared in The Australian Women’s Weekly dated April 4th, 1979 (p. 4). The article was based on research undertaken at a Sydney hospital by paediatricians Collins and Turner (1978) who reported increasing numbers of children affected by prenatal exposure to alcohol. Within the article, Collins and Turner stress the importance of abstaining from alcohol whilst pregnant, pointing out the serious long-term implications faced by individuals prenatally exposed to alcohol.

The article appeared only months after Collins and Turner discussed their research findings in the Medical Journal of Australia. In this publication they describe their findings of six Australian children born between 1968 and 1977 to mothers with a high consumption of alcohol during pregnancy. Their research found all six children had prenatal and postnatal growth deficiencies. All six children also had difficulty feeding and all presented with the facial features typical of those with Fetal Alcohol Syndrome as described five years earlier by Jones and Smith (1973). In concluding their discussion pertaining to their research, Collins and Turner state:

These cases were not difficult to find. Many more must remain undiagnosed in this country…. These facts indicate how essential it is that Australian mothers be warned of the hazards of drinking in pregnancy, and encouraged to curtail their alcohol consumption before becoming pregnant. (1978, p. 607)
In response to the Collins and Turner (1978) breakthrough article, a letter to the editor appeared in the Medical Journal of Australia authored by another Australian paediatrician, Elizabeth Turner. The letter published included a photograph taken in 1968 of an eight-year-old female whom Elizabeth Turner described ‘as suffering from Fetal Alcohol Syndrome’ (1979, p.178). Elizabeth Turner penned the letter in order to bring to the attention of readers and the medical field that she had recognised and treated ten children in Melbourne between the years 1958 and 1968 with characteristics similar to those described earlier by Collins and Turner. Elizabeth Turner highlighted that she had referred to these anomalies as associated with ‘alcoholic pregnancy’ (1979, p. 178).

Two years later in 1980, Australian medical practitioners, Walpole and Hockey, presented their research findings of seven new cases of children presenting with Fetal Alcohol Syndrome. Their research was published in the Journal of Paediatrics and Child Health where they suggested that, ‘the incidence of FAS within Australia is unknown, but with current trends in female alcohol consumption we suspect that increasing numbers will appear’ (Walpole and Hockey 1980, p. 101). Walpole and Hockey’s research further indicates that it is uncertain as to how much alcohol needs to be consumed before it causes damage to the unborn fetus, whilst also suggesting that ‘many mild cases will go undiagnosed’ (1980, p. 101).

Three years later in the Medical Journal of Australia, Lipson, Walsh and Webster (1983) brought the readers’ attention to their findings of twenty more Australian born
children presenting with FAS characteristics at the Royal Alexandra Hospital for Children in Sydney. Lipson, Walsh and Webster (1983) explain that these children were identified between the years 1978 and 1981. They also discuss the difficulty of confirming alcohol use during pregnancy, as birth mothers were reluctant to discuss their alcohol use during pregnancy, an issue many medical practitioners are faced with today.

Throughout the next decade, Australian research, policy and action regarding FASD were minimal. Although researchers, medical practitioners, government departments and health workers were aware of the damage caused by prenatal exposure to alcohol, there still seemed to be a gap in the information and research available to support members of the public, parents and caregivers of individuals with FASD, medical and health practitioners and educational workers. It was this gap in information and resources that led Sue Miers, a foster mother of a daughter with partial Fetal Alcohol Syndrome, to establish the National Organisation for Fetal Alcohol Syndrome and Related Disorders (NOFASARD). This was the first organisation established in Australia with the aim of raising awareness of FASD and providing assistance to people living with FASD, their families, carers and support workers.

Mier’s frustration, with the lack of professional resources and of medical personnel with knowledge and skills to diagnose and the lack of support for parent and caregivers, was highlighted at the 2002 National Workshop - Fetal Alcohol Syndrome Conference held in Sydney in May 2002. Miers explained to the audience that:
Trying to parent a child with a Fetal Alcohol Spectrum Disorder is extremely challenging, but in Australia it is fraught with added difficulties and frustration. Parents of children with this disorder have been placed under tremendous pressure due to the lack of professionals who have had adequate training in the identification, diagnosis and interventions for this disability. (Australian National Council on Drugs 2003, p. 6)

At this time, NOFASRD was a small group of dedicated volunteers who worked towards having FASD recognised as a disability in Australia, whilst providing information and support to parents, caregivers and individuals with FASD. In 2006, Sue Miers was awarded the Member of the Order of Australia, in recognition for her services to the community through the establishment of NOFASRD, to community and to reconciliation (National Organisation for Fetal Alcohol Spectrum Disorders 2013a). In 2013, NOFASARD changed its name to National Organisation for Fetal Alcohol Spectrum Disorders (NOFASD) to reflect current internationally accepted terminology in respect to the issue of fetal alcohol exposure by using the term Fetal Alcohol Spectrum Disorders within their title.

In July 2012, the then NOFASARD Australia received a three-year grant under the Australian Government Health System Capacity Development Fund. This grant was used to:
Raise public awareness through community education and building the NOFASD Australia support network; offering training to service providers to build their capacity to better respond to target groups who may be at increased risk for alcohol use in pregnancy or FASD; and offering consultation, advocacy and support for individuals and families whose lives are directly affected by FASD. (National Organisation for Fetal Alcohol Spectrum Disorders 2013b, n.p)

Today NOFASD offers up to date information, resources and services to families and individuals, including educational staff supporting students with FASD, who are navigating their way through the FASD web. However, Miers argues strongly that this is the responsibility of the Australian Government. The support offered through NOFASD is extensive, and acts as bridge for parents-caregivers, researchers and medical practitioners. NOFASD provides those living with FASD access to the latest research, offers a telephone support service, a library of information pertaining to FASD and a forum whereby Australian and international families are able to exchange ideas, information and share their personal stories.

The Fitzgerald Report (2001) highlighted the impact of alcohol use within Cape York, specifically the ‘alarming results in terms of the impacts of maternal alcohol consumption on the newborn’ (Fitzgerald 2001, p. 59). Following this report, the Australian National Council on Drugs and the National Expert Advisory Committee on
Alcohol requested a scoping paper on the problem of FASD within Australia. In 2002, a literature review was authored by Colleen O’Leary (2002). The paper, entitled ‘Fetal Alcohol Syndrome: A Literature Review’, was prepared and presented for the National Expert Advisory Committee on Alcohol by O’Leary in 2002.

Soon after O’Leary’s paper was presented, the Australian National Council on Drugs and the National Expert Advisory Committee on Alcohol sponsored a National Fetal Alcohol Syndrome workshop attended by thirty invited delegates. This workshop was intended to bring together researchers, medical and health practitioners, service providers and individuals who had a particular interest and/or expertise in FASD. The aim of the workshop was to raise the national profile of Fetal Alcohol Syndrome among professionals and contribute to policy approaches to address Fetal Alcohol Syndrome within Australia (Australian National Council on Drugs 2003). Neither the National Workshop nor the FASD Literature Review made any recommendations to the Australian government, but rather highlighted the absence of Australian specific FASD prevention and intervention policy, a lack of clarity on the incidence and prevalence data and an absence of service delivery collaboration.

This research moves away from reflecting on current prevalence rates, the need for a diagnostic tool and identifying preventative factors, and goes more deeply to investigate the classroom practices required to address the unique and complex learning needs of Australian students presenting with FASD. The research draws attention to the current absence of educational support and policy, for both FASD students and their classroom
teachers, that are urgently required. In doing so, this research seeks to uncover how this lack of policy also negatively hampers the current classroom practices of an Australian cohort of teachers working alongside of students with FASD and their families.

In October 2002, medical and health experts, Payne et al. (2005), conducted a survey within the health sector of Western Australia to measure the knowledge, attitudes and practices of health professionals in relation to FASD and alcohol use during pregnancy. The results indicated that 95% of those surveyed had never made a diagnosis of FAS/FASD, with 53% expressing concern about stigmatising families with such a diagnosis. Only 2% of the practitioners surveyed believed they felt prepared to diagnose FAS and only 45% routinely asked about alcohol use during pregnancy. What was alarming was that, 34% of the participants had indicated that they had suspected FAS/FASD but did not diagnose. In their summation, the researchers advised of a call by participating health professionals for information for both themselves and their clients, which included a FASD checklist, improved access to clients’ prior pregnancy histories and professional development programs for all members of the health sector.

Eleven years later in 2013 in a media interview, Elliott indicated that non-diagnosis was still a relevant issue in Australia, when she explained that many doctors still remain hesitant to diagnose FASD, as they are unsure as to where to refer them or what services are available.

As previously highlighted, there have been very few published Australian studies in regards to the prevalence of FASD and, as yet, no nationally confirmed data on FASD
incidence within Australia are available (McLean, McDougall and Russell 2014). Routine recording and assessment of alcohol use in pregnancy, education in relation to diagnosis of FASD and methods of collecting national data are required before we can confidently estimate the true prevalence rates of FASD within Australia. It is clear that there is very limited research available in relation to FASD within Australia. Therefore, strengthening the need for further studies in a number of areas related to the responsive treatment of Australian individuals with FASD is essential.

This research sets out to work closely with one Australian school in an attempt to discover the needs, what works, and the challenges faced by the school community. This school is one of many in Australia grappling with similar issues. The research seeks to reveal the actions of teachers in a context in which there are no national statistics indicating the number of FASD students attending schools throughout Australia. The research further looks to understand if children and young people with FASD are attending education settings which are properly resourced, or perhaps under resourced, as the literature suggests. It also investigates the capacity and ability of teachers, schools and systems to provide consistently appropriate practice aimed at ensuring the holistic needs of students presenting with FASD and their families are addressed.

In Western Australia, from 1980 onwards, the Birth and Defects Registry and the Rural Paediatrics Service collated a database designed as a patient recall database. This database which informally noted diagnoses and gathered data on morbidity in specific
areas of Western Australia was analysed by Bower, Silva, Henderson, Ryan and Rudy twenty years later, in 2000. The information gathered through the Western Australia Birth and Defects Registry and the Rural Paediatrics Service database was collected by visiting paediatricians and used 15 major categories and 7 subcategories which in turn formed a cross referencing grid of disease processes and body systems (Bower et al. 2000). Visiting paediatricians documented FAS in either the congenital/central nervous system category or perinatal/ nutritional category.

Through Bower’s et al. (2000, p. 575) examination of the collected data it was highlighted that, between 1980 and 1997, FAS was reported in 67 Aboriginal infants (2.76 per 1000) and in 10 non-Aboriginal infants (0.02 per 1000 births). Furthermore, Bower et al. (2000) believe the high prevalence of FAS/FASD within the Aboriginal population of Western Australia compared to the non-Aboriginal population may be due to under diagnosis and under ascertainment of FAS in non-Aboriginal infants. Additionally, Elliott and Bower (2004), Harris and Bucens (2003) and Williams, Odaibo, and McGee (1999) suggest that prevalence rates of FASD are likely to be underestimated. On the other hand, Williams, Odaibo and McGee (1999) suggest that there are studies where the prevalence of FASD may be overestimated as a result of researchers choosing sites where FASD is expected to occur more often and in communities where drinking rates are known to be particularly high.

The previous chapter identified and reported that FASD has no economic, cultural, racial or socioeconomic borders and can potentially affect any child who has been
prenatally exposed to alcohol. Furthermore, Barker et al. suggest that current prevalence rates and reports may not be a true indication as ‘FASD is often associated with secrecy and shame, quite possibly due to its preventable nature’ (2011, p. 176). Although the current prevalence rates within Australia are unknown, what is known is that FASD exists and currently within Australia there is a void in educational support, guidance and knowledge for teachers working alongside FASD students and their families. The methodology design for this project specifically sets out to capture the general and personal experiences of those working with students with FASD and redress this void in knowledge. The approach provides for individual and collective voices to highlight the approaches and structures that serve students with FASD well, and those which create barriers to successful learning outcomes.

In 2003, a further Australian prevalence study was conducted by Harris and Bucens (2003) to advance local knowledge in relation to the extent of FASD in the Top End of the Northern Territory, in both the Indigenous and non-Indigenous population. The data collected were reported as cases identified through medical records, outpatient letters of children seen by paediatric staff at the Royal Darwin Hospital and by tracing potentially affected siblings. Their research which was based on data collected from 1990 to 2000, indicate that from 88 children, 17 were identified with FAS, whilst a further 26 children were identified as having partial FAS or alcohol-related neurodevelopmental disorder (ARND). The prevalence of FASD in the Top End of the Northern Territory identified through this study was calculated to be 0.68 per 1000 live births.
The Harris and Bucens study observed that, within the Indigenous population, the prevalence rate for FAS is calculated to be between 1.87 and 4.7 per 1000 live births. In extending, Harris and Bucens note that ascertainment bias must be considered as a possible explanation for the absence of FASD in the non-indigenous population within their study. Furthermore, they report that paediatricians may be less likely to identify excessive alcohol consumption in non-Indigenous women than in their Indigenous counterparts (2003, p. 529). This is also supported by Tait (2003) who suggests that a large proportion of research on FASD is focused on Aboriginal peoples and supports a commonly held belief that substance abuse during pregnancy occurs more frequently among Aboriginal women compared to their non-Aboriginal counterparts. However, all these studies further stress the absence of reliable and detailed data and that the true extent of FASD in Aboriginal and non-Aboriginal populations is not known and therefore, no assessment of higher prevalence is possible.

Two years later in 2005, Anne Russell published her personal story uncovering the circumstances that led to both her children being diagnosed with FASD. Russell (2005) published the first Australian book on FASD, with the hope of telling her story as a birth mother of two children diagnosed with FASD. It was Russell’s intention to bring about an awareness of a topic that was not publicly discussed and was receiving little attention from both state and federal governments. Russell’s story not only highlights the difficulties faced in gaining a diagnosis within Australia, but the guilt of birth mothers, the perceived stigma attached to a diagnosis of FASD, the lack of local government and non-government support and information for individuals and their
families. Along with this, Russell’s account emphasises the ongoing difficulties children and adults experience in their everyday lives.

With so little known about FASD, these individual accounts are rich and informative. Further they illustrate the high value of deep studies. The ongoing shared personal stories and experiences of parents and caregivers, such as that of Russell, form the foundation of this research. With an unknown number of children and young people with FASD attending Australian schools and a gap in national professional knowledge available to Australian education staff, this research investigates and reports on classroom practices currently implemented by education staff in one Australian school, with a vision for achieving inclusion and success for students with FASD. This explicit reporting of the efforts and successes of one community further demonstrates the need for a systematic and consolidated approach to understanding FASD and its implications nationally.

Over the years, Russell has lobbied extensively at both a state and national level to raise awareness of FASD. She is an experienced educator who is in demand in the field and delivers training and development workshops to parents, carers, health workers, medical practitioners, midwives and various other community organisations throughout Australia. Russell is the founder of the Russell Family Fetal Alcohol Disorders Association (RFFADA) which is a non-profit organisation run by volunteers with their mission being:
To provide information, training and education to increase the capacity of communities, organisations and individuals to support those people living with FASD to live to their full potential. (Russell Family Fetal Alcohol Disorders Association 2015a)

Today, Russell is a member of a number of Australian consultative groups working towards ensuring that FASD is recognised within Australia as a condition requiring government assistance and support. She also presents at various conferences throughout the world and is often interviewed in relation to her personal journey and the work she is doing within Australia. When asked the question, ‘If you had the power to make any changes in Australia in relation to FASD, what would you do? Russell responded, reflecting on her personal lived experience and insight.

I would like to see a massive campaign targeting all Australians aimed at educating them about the devastating results of using alcohol in pregnancy. I would also ensure there is a clinic in every capital city and every major regional centre that provides free multidisciplinary service for parents, carers, friends and family of affected individuals.

It would also be important to provide training in all aspects of support for affected people of all ages, support groups for birth mothers, support groups to cope with behaviour of affected children. Then I would ensure that everyone in Australia understands the link between prenatal alcohol exposure and crime, drug and alcohol use, recidivism and rising mental health problems, violence, relationship breakdown, child abuse, sexual abuse, parenting problems, literacy
and numeracy problems, rising levels of autism, Asperger’s syndrome, attention deficit hyperactivity disorder.

Having said this, I know that we need to prepare various studies and research relevant information and statistics so we have our own information, but my focus is on affected people and their parents and family. There are enough people suffering to warrant services in each city as an adjunct to community health with people who completely understand the behaviour of an affected person and completely understand what parents and family members need to deal with on a daily basis and what services the individual needs to live a full and satisfying life. (Russell Family Fetal Alcohol Disorders Association 2015b)

Anne Russell has played a pivotal role in bringing together families across Australia who are living with FASD, through the Russell Family Fetal Alcohol Disorders Association (RFFADA) Facebook group. The group provides a space in which Australian parents-caregivers are able to share strategies and information with each other in a secured on line community. Additionally, the RFFADA uploads information included in weekly videos, FASD Fridays and provides information on a range of topics as requested by members of the group.

It is evident from the literature presented so far, that within Australia over the past four decades, it is individuals, a small group of researchers and community members who are conveying the important message that prenatal alcohol exposure may cause lifelong irreversible damage to the unborn fetus. They are self-initiated and self-managed, all
driven by a need for information, support and a community that understands. The lack of recognition and organised support via government funding and the health and education systems have resulted in this need for small self-help groups.

This thesis explores the initiatives developed and implemented in one Australian school community so that FASD students’ educational needs are considered in curriculum design, decision making and delivery. In doing so, this investigation aims to bring to the attention of education stakeholders the need of an Australian-wide approach to guide and support all Australian education staff when working with children and young people with FASD. Through the experiences and voices of education personnel and parents, the research also highlights the professional learning programs needed to extend Australian educators’ understanding of the complexities of FASD.

The Fitzroy Valley communities of Western Australia are leading ongoing research within Australia. These communities have acknowledged that alcohol has impacted not only on their current communities, but also on their next generation. These communities took independent action and sought assistance from local government, businesses and health research organisations such as, the Telethon Kids Institute. In 2007, the communities of the Fitzroy Valley were in crisis. The Fitzroy Crossing Hospital staff described the abuse of alcohol in the communities as ‘chronic, chaotic and violent’. It was common for them to treat between 30 and 40 people a night for alcohol related injuries (Kinnane et al. 2009, p. 24). Furthermore, Joe Ross, a local traditional landowner, suggests that ‘the community had become immune to attending funerals’
after having 55 funerals in one year, 13 of them being suicides’ (Australian Human Rights Commission 2010, para. 16).

In 2007, in the face of this ongoing and escalating crisis, the senior women in the Fitzroy Valley decided to discuss the alcohol issue and look for solutions at their Annual Women’s Bush Meeting. The Women’s Bush Meeting is under the auspices of Marninwarntikura, a forum for the women from the four language groups across the Valley who come together to talk. At the 2007 Bush Meeting, discussions about alcohol were led by senior women of the Fitzroy Valley, June Oscar and Emily Carter from Marninwarntikura. The women in attendance agreed it was time to make a stand and take steps to tackle the problem of alcohol in the Fitzroy Valley (Latimer et al. 2010, p. 4). Their agreement to take action on alcohol was a starting point which gave Marninwarntikura a mandate to launch a campaign to restrict the sale of alcohol from the take-away outlet in the Fitzroy Valley.

It was only months later in 2008 that a FASD leadership team was formed within their community and they embraced a ‘Circle of Friends’ (Australian Human Rights Commission 2010 n.p.), including local government, business and community organisations who worked together to formulate a strategy which they named Marulu a Bunuba, meaning “precious, worth nurturing”. This strategy included the diagnosis and prevention of FASD, community education and support for parents and carers of affected children. This Women’s Bush Meeting was pivotal for all Australians, as it started the communication, information, learning, research and policy development
within Australia on the subject of FASD and its impact on community, families and society as a whole.

Below is the Circle of Friends model that engages all relevant stakeholders from local, regional and national levels including the Aboriginal organisations of the Valley and government agencies. All participants are actively involved in the development and implementation of the FASD/Early Life Trauma Strategy that was endorsed by the Valley’s FASD leadership team:

**Figure 4:** Diagram representing the “Circle of Friends” - From Community Crisis to Community Control in the Fitzroy Valley (Australian Human Rights Commission 2010 n.p.)
Whilst it was the Fitzroy Valley leaders who first sought guidance and support from professional medical experts and opened communication in relation to FASD, in 2009 another Aboriginal Health Service developed a FASD Prevention Program. The Ord Valley Aboriginal Health Service (OVAHS), in Northern Western Australia, developed a FASD Prevention Program in response to the high incidence of alcohol consumption locally, in particular maternal alcohol use and the resultant suspected incidence of FASD (Bridge 2011). Although alcohol use in pregnancy is not confined to Indigenous populations (Telethon Institute for Child Health Research 2009, p. 15), high levels of alcohol use in pregnancy were identified by the local Aboriginal community as being of great concern. Hence, the local traditional owners, the Miriuwung and Gajerrong peoples, agreed to provide initial funding for the OVAHS FASD program. The program endeavoured to develop and deliver strategies aimed at supporting both the individual and the family to make informed choices regarding alcohol and pregnancy. Given the connection between the individual, families, community, environment and alcohol, the Ord Valley FASD program took a broad, holistic approach when working with women and their families.

Bridge (2011) explains that due to the void in national FASD knowledge, this community took the opportunity to draw on the knowledge and experience of similar international initiatives in guiding their FASD Prevention Program. It is important to acknowledge that, as with the Fitzroy Valley’s approach to addressing FASD, the Ord Valley FASD Prevention Program was founded on the principles of community control and self-determination and, as such, has successfully responded to the concerns of prenatal alcohol use raised by the community. This project is now funded by the
Department of Health through the New Directions Mothers and Babies program and provides some evidence that governments can and are taking some responsibility for support and development of programs. But this is one of few such examples.

Whilst both the Fitzroy Valley and the Ord Valley are located in Western Australia, they were not the only communities to take action with regard to FASD in their community. In September 2011, the Anyinginyi Health Aboriginal Corporation received a small grant to fund a Fetal Alcohol Spectrum Disorders Awareness Program in Tennant Creek, Northern Territory. The FASD project coordinator, Adel Gibson claims that this program is the only FASD awareness program conducted throughout the Northern Territory (Anyinginyi Health Aboriginal Corporation, 2015). Adding to this, Chairperson of the Anyinginyi Board, Linda Turner, believes that the program has been ‘instrumental in bringing about an awareness of FASD within their community’ (Anyinginyi Health Aboriginal Corporation 2015, n.p.). The program has sought to educate all members of their community through the implementation of awareness signage in local alcohol licensed premises, whilst also creating a hip hop video featuring young members of the community. Community members believe that the hip hop music video, *Strong Baby, Strong Life*, has been successful in educating youth about the possible lifelong damage caused by prenatal exposure to alcohol whilst giving the local community a sense of ownership of their project.

Additionally, in Victoria, in response to national media attention around FASD within many Australian Aboriginal communities, Pyett et al. (2008) and her colleagues invited
the Victorian Aboriginal Community Controlled Health Organisation to put together a
consortium to conduct an awareness raising project for Victorian Aboriginal
communities in relation to FASD. The scope of this project, ‘Healthy pregnancies,
healthy babies for Koori Communities’, was to research the level of awareness in
Victorian Aboriginal communities about the health effects associated with consuming
alcohol during pregnancy. Pyett et al. (2008) consulted with Aboriginal Health
Workers, Victorian Aboriginal Hospital Liaisons, Mother and Child Health Nurses, as
well as conducting a survey with Medical Practitioners working within Aboriginal
Community Controlled Health Services, to investigate the scope of knowledge in
relation to FASD.

The survey utilised by Pyett et al. (2007) was the same survey developed by Payne et al.
(2005) and conducted within the health sector of Western Australia two years earlier.
Pyett et al. (2007) explains that this was to enable them to compare their findings, and
they found, the results were very similar. From the information gathered throughout
their investigation, it was apparent to Pyett et al. (2007) that Victorian medical
practitioners working in Aboriginal Community Controlled Health Services required
accurate information and support in relation to the effects of alcohol on women and the
developing fetus, the symptoms and diagnostic criteria for FASDs and the importance
of screening all pregnant women regarding their alcohol use. In gathering such data,
Pyett et al. (2007) were able to develop culturally appropriate resources with a positive
message within a holistic framework for allied health workers, medical practitioners and
those working within Aboriginal Community Controlled Health Services to provide
ongoing support and resources to pregnant women.
Due to the methodological approach used within this research, participating community members’ thoughts, actions and knowledge contribute to a greater understanding of the educational supports required to ensure respectful inclusion of FASD students within Australian education settings. Without this community’s willingness to share their journey, the parents’ personal struggle in finding appropriate resources and support, the classroom teachers’ efforts in locating national educational resources and professional learning programs, Australian education systems will continue to experience a deficit in guiding principles and practice for FASD students and their families. These communities and others, such as Cherbourg in Queensland, are leading inquiry and innovation in the acknowledgement of FASD and with developing strategies to maximise opportunities for those with FASD (Telethon Institute for Child Health Research 2014).

With much of Australian research around FASD coming from within Aboriginal communities, this research is likely to contribute to the misconception that FASD only occurs in communities where alcohol is consumed in vast quantities. However, this is not the case, but it is true that Aboriginal communities are taking the initiative across the country to lead change and improvement for all those whose lives are affected by FASD. This study builds on community centred social research, adds to this body of knowledge and provides a rich and deep investigation into the work being undertaken, so that local practices can be systematically analysed and discover insights that will support other communities.
The literature reviewed in the previous chapter showed that it is clear that FASD has no cultural, racial or socio-economic boundaries and can affect any unborn child prenatally exposed to alcohol. While this is true, the literature presented so far indicates that FASD does exist in Australia and has been identified as such, since the early 1970s, there still remains a lack of government acknowledgement, support, guidance and policy to develop public awareness and programs with regard to the potential lifelong damage caused by consuming alcohol whilst pregnant.

As far back as 2011, Dr Fiona Stanley, recognised as an eminent Australian in public health, spoke out strongly about the action required in relation to mandatory labelling on alcohol to warn about the importance of not drinking alcohol when pregnant. In a letter to the Australian Government, signed by sixty-three Australian health and medical experts, it was claimed that the effects of FASD were now well studied and that those studies had showed a range of brain abnormalities and nervous system damage to children prenatally exposed to alcohol. In an interview with the Daily Telegraph newspaper, Stanley stressed that ‘this is a preventable problem, yet the community remains largely unaware of the potential harms that can result from alcohol use during pregnancy’ whilst also urging the Ministers to put the health and welfare of children ahead of the alcohol industry (Stanley 2011, p. 3).

The Australia and New Zealand Food Regulation Ministerial Council, renamed the Legislative and Governance Forum on Food Regulation, responded to the labelling on
alcohol in their Response to the Recommendations of Labelling Logic: Review of Food Labelling Law and Policy Document (2011). They state that:

The alcohol policy framework for action on alcohol in Australia does not currently include mandatory warning labels; however, initiatives including education campaigns and voluntary labelling is being implemented by industry. (Australian and New Zealand Food Regulation Ministerial Council 2011, p. 30)

It was in this same year, 2011, that the Minister for Families, Housing, Community Services and Indigenous Affairs Minister, Jenny Macklin, and the then Minister for Health and Ageing, Nicola Roxon, requested the House of Representatives Standing Committee on Social Policy and Legal Affairs inquire into, and report on, the incidence and prevention of FASD in Australia (House Standing Committee on Social Policy and Legal Affairs 2011). Twelve months later, in November 2012 the Australian House of Representatives Standing Committee on Social Policy and Legal Affairs tabled their report in parliament entitled ‘FASD: The Hidden Harm, Inquiry into the, prevention, diagnosis, and management of Fetal Alcohol Spectrum Disorders’. The report makes 19 recommendations on strategies to better prevent, identify and manage FASD in Australia. Among these are 11 recommendations on the prevention of FASD and to raise awareness of the harms resulting from alcohol consumption during pregnancy. Whilst there are actions in place to advance some of the recommendations, there is still a markedly long way to go in the endeavour to prevent, identify and manage FASD within Australia.
In addition, the ‘FASD: The Hidden Harm, Inquiry into the, prevention, diagnosis, and management of Fetal Alcohol Spectrum Disorders’ acknowledges that many Australian parents and carers were ‘placed in a position of having to educate schools on FASD with varying levels of success’ (House Standing Committee on Social Policy and Legal Affairs 2012, pp. 131-132). Within the report it was also noted that a review of the Commonwealth Disabilities Standards for Education 2005 indicated that the effectiveness of these standards is somewhat compromised by a lack of funding, an inability to access professional learning for educational staff and the provision of support services.

This thesis seeks to extend on the information provided by the ‘FASD: The Hidden Harm, Inquiry into the, prevention, diagnosis, and management of Fetal Alcohol Spectrum Disorders’ (House Standing Committee on Social Policy and Legal Affairs 2012). The thesis investigates the educational principles and practices that are required for Australian education staff to effectively provide an inclusive classroom culture encapsulating the unique and complex needs of FASD students. The data inform policy and practice in Australian education in relation to the educational support required for FASD students whilst also providing a framework to guide policy and practice.

In December 2012, the Australian National Health and Medical Research Council, Australia’s peak funding body for medical research, opened a Target Call for Research
into Fetal Alcohol Spectrum Disorders among Aboriginal and Torres Strait Islander peoples. Three research projects were funded including:

- Behaviour Support Training for FASD – University of Sydney
- FASD Prevalence Study at Cherbourg, Qld – University of Sydney
- Improving Management of Young People with FASD within the Justice System – Western Australia.

These research projects are currently underway, although it is critical to note that, significantly, the unique and complex educational needs of Australian FASD students remain unacknowledged in any of the projects listed above.

More recently, in 2014, Gold Coast Health sponsored a team of 7 practitioners, including a paediatrician, speech therapists, occupational therapists and psychologists to travel to Vancouver to undertake training in assessing and diagnosing Fetal Alcohol Spectrum Disorders. On their return and under the leadership of Dr Doug Shelton, Australia’s first diagnostic clinic was formed in Southport Queensland. In a media interview dated September 9, 2014, Shelton expressed his concern in relation to the void in knowledge and understanding of FASD within Australia (Shelton 2014). Adding to this, Shelton estimated that up to 5% of the Australian population could be affected by prenatal exposure to alcohol. Furthermore, Shelton suggests that more children are born every year with FASD than with Autism, Spina Bifida, Cerebral Palsy, Down Syndrome and SIDS combined and expresses concern that FASD is not recognised, publicised or given appropriate attention as those conditions listed above (Shelton 2014).
In support of Shelton, this research draws attention to the gaps in understanding and acknowledgement of FASD within the Australian education system and the need for appropriate systems and structural changes required to support respectful inclusivity for Australian FASD students. This is achieved firstly by a full review of current knowledge and practice, identification of the principles of respectful and inclusive practices, and through the authentic voices and actions of one Australian community working together to ensure students presenting with FASD are afforded the educational experience equal to that of their peers.

Within Australia, although there is advancement in diagnostic clinics and information for parents and caregivers, there is still a substantial void in the information and resources available for educational staff to access ensuring the complex range of conditions associated with FASD are catered for within the education setting. The research gathers evidence of the crucial classroom pedagogy of Australian educators to guide all education staff when working alongside families and students presenting with FASD.

This chapter has identified the current research, policy development and community response within Australia surrounding FASD. The literature has highlighted the lack of government policy within Australia which individuals, researchers and communities have been trying to fill. The review of past and current practice has brought to light that Australia lacks a national approach to FASD and a paucity of research and strategy in relation to the educational needs of those affected by prenatal exposure to alcohol,
compared with international efforts which are well advanced. Students presenting with FASD and families are without significant voice and influence in Australian policy and research. This is a key goal to be achieved in the research design of this project.

Without a national agenda to guide educational staff in the complex inclusive approaches required when working alongside children and young people with FASD and their families, educational staff will continue to be ill-prepared and unable to effectively meet the unique and complex learning needs of Australian students with FASD.
CHAPTER FOUR

INCLUSION

Children and Young People with FASD Can, Will and Do Learn

Although Fetal Alcohol Syndrome was first acknowledged within the Australian medical field and similarly named in the public arena in the early 1970s, there continues to be a need for more research and policy development for students and their families living with FASD. Most seriously, the prevalence of students with FASD attending our schools is currently unknown. What is known, is that FASD is not discriminatory and can potentially affect any individual who has been prenatally exposed to alcohol.

Because the true incidence of FASD is not currently known within Australia, there is a likelihood that many children and young people with FASD may be presenting in Australian schools with alternative diagnoses, such as ADHD and autism. It should be expected that Australian educational professionals struggle to be equipped with appropriate knowledge and skills, access to national professional learning programs and the resources to ensure they are able to teach students with FASD successfully. For these reasons, understanding individual student’s unique strengths, learning styles, learning difficulties and challenges, along with each student’s particular life circumstances and experiences, is crucial so that teachers are able to provide a positive, safe and academically challenging educational experience for Australian students presenting with FASD.
Ryan and Ferguson (2006) observe that a high percentage of students presenting with FASD are not placed in specialist school settings because their IQ typically ranges from borderline to low average. Therefore, it is important for classroom teachers to have sound knowledge of the learning needs of students presenting with FASD along with a range of strategies and interventions to adapt their instructional techniques. Crawford reports that ‘approximately 75% of school aged children who present with FASD do not have an intellectual disability, but will have specific neurological damage that will impede their learning and impact behaviour within the school setting’ (2008, p. 17). Further, Blackburn and Whitehurst (2010) affirm that educating and supporting FASD students requires an informed and holistic approach that relies on reflective practice and adaptive teaching techniques.

If educational settings are to meet the challenge of educating increasing numbers of students with diverse needs, it is essential for the success of all students that, classroom teachers embrace instruction and curricula that engage with and encourage all students, including those presenting with FASD. Within this context, this research seeks to articulate the specific professional knowledge and strategies that assist with the development of effective learning environments and the implementation of pedagogies to support education professionals in providing a challenging, supportive and successful learning outcome for all students (Brazelton and Greenspan 2009; Weare 2000), including students deemed to be on the FASD continuum.
This chapter outlines the existing knowledge in relation to educating students presenting with FASD, including the primary and secondary disabilities that some students presenting with FASD may encounter. It provides an overview of education practices and principles for inclusion.

**Educational Implications**

The literature reviewed has outlined the effects of prenatal alcohol exposure and a variety of complex challenges for students presenting on the FASD continuum, due to both the physical and intellectual difficulties they encounter. Prenatal damage to the brain may cause developmental disabilities which can consist of learning difficulties, language, social or motor impairment, memory impairment, attention deficit, poor consequential thinking and poor planning skills. Each student with FASD will present a unique set of learning needs dependent on the nature and degree of the damage caused to the brain for that individual. As FASD is a condition of which little is known within Australia, FASD students may be a mystery to educators, especially when the student has not been diagnosed or when the educational team is not aware of a diagnosis (Streissguth, 1997). Millar et al. (2014) extend by highlighting that students on the FASD continuum process information differently, and therefore may be required to be taught information that their peers naturally learn through every day experiences. It is for this reason, that it is essential for the educational growth and social development of students with FASD that classroom teachers and educational support staff have access to up to date knowledge, local resources and support from within the education department.
Children and young people with FASD can, will and do learn. However, research reports that they do require specialised educational strategies: more repetition, a less distracting environment, more specialised techniques and individual encouragement. These students are often highly motivated to please their teachers, but may have difficulty relating to teachers who do not give clear instructions, or who are inconsistent with instructions about what they require (Streissguth 1997). Adding to this, Turner (1979) suggests that FASD students’ cognitive and behavioural difficulties can manifest themselves in behaviours such as restlessness, distractibility and inability to conform and adhere to rules.

Further, Riley and McGee (2005) believe that students with FASD can quickly come to the attention of their teachers and are often labelled with Attention Deficit Hyperactivity Disorder due to the behavioural similarities with FASD and Attention Deficit Hyperactivity Disorders (ADHD). Coles et al. (1997) explored the attentional profiles of children with ADHD and FASD and discovered that there were unique differences between the two populations. When compared on variables of encoding, shifting, sustaining and focusing, children with prenatal alcohol exposure had more difficulties with tasks involving encoding and shifting, whereas children with an ADHD diagnosis had more difficulties with tasks involving sustaining and focusing (Coles et al. 1997). Further studies suggest that children with ADHD are characterized more by issues of impulsivity than are children with FASD (Calarco et al. 2003).
All these studies demonstrate the still developing body of knowledge which informs the education of students with FASD. This thesis focuses on adding to this work and illuminating classroom strategies that specifically support the unique educational challenges faced by Australian students presenting with FASD. Also highlighted through the literature analysis are the noticeable gaps in current educational policy, guidelines and resources available to Australian classroom teachers supporting the successful inclusion of children and young people with FASD.

Many of the behaviours which result from the effects of prenatal exposure to alcohol can be challenging and often try the patience of the most enthusiastic, committed and experienced educators. Research stresses students with FASD are often inconsistent within the standard classroom learning environment, as reported by the government-run Canadian organisation, Healthy Child Manitoba:

In one circumstance, they may respond positively to feedback. On the next occasion, the same feedback may result in a negative response. Children with FASD often have difficulty with cause and effect reasoning and adjusting to new or unfamiliar situations. This can result in teachers or caregivers misinterpreting the behaviour and responding in a way that may create a more difficult situation. (Healthy Child Manitoba 2010, p. 7)

In 1994, Striessguth et al. (1994) published the results of a 14-year longitudinal study they conducted with a cohort of 500 infants and which examined the long-term impact
of prenatal exposure of alcohol. The infants were all delivered in the Seattle area and were assessed periodically on their first and second day after birth, at 8 and 18 months of age, and again at ages 4, 7 and 14. Streissguth et al. (1994) traced the natural history of these participants and highlighted the profound, pervasive and persistent nature of FAS/FASD. The data that informed Streissguth’s et al. (1994) research were collated from birth mothers, teachers and through a large battery of tests and measurements administered to school aged children. The data indicated that abnormal cognitive functioning manifested itself in many areas, including difficulty with retaining information, spatial memory difficulties, level of ability in flexible problem solving, difficulty with abstraction such as time and space and cause and effect, and complications with generalising from one situation to another.

Importantly, when referring to the research conducted by Streissguth et al. (1994), the American Academy of Pediatrics reports that the participants also demonstrated poor attention and concentration skills, memory deficits, impaired judgment, comprehension and abstract reasoning. Additionally, behavioral issues, including hyperactivity, impulsivity and problems such as lying, stealing, stubbornness, and oppositional behavior, were common and were quantitatively and qualitatively different from those found in other diagnoses (American Academy of Pediatrics 2000, p. 358). Duquette et al. (2006) clarify that although many of the behaviours that are observed in children with FASD are similar to other diagnoses such as Attention Deficit Hyperactivity Disorder and Learning Disabilities, ‘the differentiating traits are the inability to generalise from one situation to another, being overwhelmed in stimulating
environments, difficulty predicting outcomes and learning from consequences and an inability to retain information’ (2006, p. 29).

**Primary and Secondary Issues Associated with FASD**

The literature reviewed has explicitly indicated that prenatal exposure to alcohol may affect the developing fetus and cause long term irreparable damage. Furthermore, the literature also illuminates that not all students presenting with FASD will exhibit the facial features associated with Fetal Alcohol Syndrome. Adding to this, Blackburn, Carpenter and Egerton (2012) highlight that students with prenatal exposure to alcohol are in classrooms and, whilst only a small percentage of these students have been diagnosed with FASD, there are many who remain unidentified. Students presenting with FASD may experience a range of difficulties with their cognitive, academic, social, emotional and behavioural development which may become more apparent within the educational setting and have a negative impact on students with FASD ability to learn and their educational experience (Carpenter 2009). What is also clear from the literature, is that although there is quite a considerable body of knowledge that refers to the health factors related to FASD, there is little evidence of research that relates to the education and schooling experience of children and young people presenting with FASD.

Students presenting with FASD will enter the educational setting with primary conditions associated with prenatal exposure to alcohol and many are often unsupported or undiagnosed. As Streissguth et al. (1997) observe, secondary conditions, such as
mental health issues, can emerge over time due to environmental and societal pressures to conform and a misunderstanding of the primary conditions associated to FASD. A deeper understanding of these primary and secondary conditions experienced by students with FASD is needed to enrich the educational professional’s knowledge and give insight into the behaviours that may be observed within the classroom setting. By investigating the current classroom practices of Australian teachers working alongside students and families navigating their way through the education system, this research explores pedagogical approaches that deliberately respond to the primary and secondary conditions experienced by some students with FASD. By developing this critical knowledge, educational staff will be better equipped to identify and adjust pedagogical approaches to enhance the learning experience of students presenting with FASD.

**Primary Conditions**

According to Streissguth et al. (1997), primary conditions are the inherent functional difficulties reflective of central nervous system dysfunction. Hartness (1998) reminds parents and educators that primary disabilities are unique to each individual depending on the specific neurodevelopment damage that has occurred prenatally. A high percentage of the primary conditions commonly associated with FASD can be related to the alterations to the brain structure during the development of the fetus. Prenatal alcohol exposure impacts on the developing brain is an area in which extensive research is currently being conducted, although existing research clearly states that alcohol can affect both the embryo and the fetus (O’Neil 2011).
Through neuropsychological studies undertaken by Mattson, Schoenfeld and Riley (2001), the data report the notion that alcohol affects the unborn child in two different ways. Firstly, affecting the structure of the brain and secondly, affecting the function of the brain. The four regions of the brain most frequently referred to when discussing the effects of prenatal alcohol exposure are the basal ganglia, cerebellum, corpus callosum and the hippocampus. Furthermore, neuroimaging studies of the brain illustrate that all four regions are diminished in size and in some cases, the corpus callosum may be absent (National Organization on Fetal Alcohol Syndrome - South Dakota Center for Disabilities, 2009).

![Normal Development/Alcohol Exposed](image)

**Figure 5:** Image of a normal developing 6-week old baby’s brain (left) compared to a FAS brain (right) (Kellerman 2010, n.p).

Often primary conditions are mistaken as behavioural problems, but the underlying damage to the central nervous system is the originating source of a functional difficulty, rather than a mental health condition, or a behaviour which is considered a secondary condition (Russell, A 2016). Primary conditions are present at birth: they are lifelong,
irreversible and invisible. Therefore, they cannot be changed, nor will the student outgrow these conditions. These primary conditions can affect all aspects of functioning for students presenting with FASD from the most basic task to the most complex task. Additionally, as explained by Olson (2002), students presenting with FASD experience a range of difficulties across their life as they struggle to meet academic, social and cultural expectations. In support, Anne Russell (2016) explains that the difficulties faced by some FASD students may not be evident at a young age, and may only become evident over time as their social demands increase.

Figure 6 indicates the areas of the brain commonly compromised by FASD and the learning areas affected which may be observed within the educational setting.

<table>
<thead>
<tr>
<th>Areas of the brain commonly compromised by FASD</th>
<th>Areas of learning affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frontal Lobe</td>
<td>• Executive Functioning.</td>
</tr>
<tr>
<td></td>
<td>• Co-Ordination.</td>
</tr>
<tr>
<td></td>
<td>• Processing and labelling/memory.</td>
</tr>
<tr>
<td></td>
<td>• Focussing and shifting attention.</td>
</tr>
<tr>
<td></td>
<td>• Planning.</td>
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<tr>
<td></td>
<td>• Understanding consequences.</td>
</tr>
<tr>
<td></td>
<td>• Maintaining and shifting attention.</td>
</tr>
<tr>
<td>Corpus Callosum</td>
<td>• Speed of processing.</td>
</tr>
<tr>
<td></td>
<td>• Connecting two sides of the brain.</td>
</tr>
<tr>
<td>Hippocampus</td>
<td>• Ability to consolidate new memories.</td>
</tr>
<tr>
<td></td>
<td>• General learning and emotional regulation.</td>
</tr>
<tr>
<td>Amygdyla</td>
<td>• Ability to regulate reactions with the environment such as whether to attack or escape.</td>
</tr>
<tr>
<td></td>
<td>• Decision making.</td>
</tr>
</tbody>
</table>

**Figure 6:** An overview of the cognitive effects of damage to different regions of the brain commonly compromised by FASD (Blackburn, Carpenter and Egerton 2009, p. 9).
Although studies continue to investigate the prenatal damage caused by alcohol to the developing brain region, it is important to understand the primary conditions that are associated with this brain injury and how these primary conditions may unfold in the educational setting. Even though alcohol can permanently damage the developing cells of every body system, research highlights that a high percentage of the damage linked with FASD occurs in the central nervous system which is comprised of the brain and spinal cord. The primary disabilities of FASD are those that directly reflect the underlying central nervous system damage caused by prenatal exposure to alcohol. As explained by McLean, McDougall and Russell (2014), this damage manifests in a range of difficulties with adaptive behaviour, attention, cognition, executive functioning, and memory. As a result, students presenting with FASD may have difficulties with compromised executive functioning, impaired judgement, inability to generalise information, poor memory and difficulties with abstract concepts (National Institute on Alcohol Abuse and Alcoholism 2000).

Students presenting with FASD may also experience difficulty in transitioning from one task to another. They may not learn from their past mistakes. They may experience difficulty and frustration when transferring learning from one situation to another. They may have difficulties in remembering how to perform tasks and some students may be unable to predict the consequences of their actions (McLean, McDougall and Russell 2014). Within the context of such a complex range of identified difficulties, this research examines current practice and educational tools adopted with success by Australian teachers working with students with FASD.
Over the past three decades’ researchers, Mattson, Crocker and Nguyen (2011), Carpenter (2009), Rasmussen (2005) and Pennington and Ozonoff (1996) have brought to our attention a range of primary disabilities reported and researched as being evident within the education setting and requiring understanding and consideration by educational professionals, in order to support and provide a positive classroom culture. These include:

- Compromised Executive Functioning
- Impaired Judgement
- Challenges in Generalising Information
- Retaining Information
- Difficulty with Abstract Concepts
- Sensory Processing Dysfunction
- Dysmaturity

**Compromised Executive Functioning**

Zalazo and Muller (2010) define executive function as higher-order psychological processes involved in goal-oriented behaviour under conscious control. Executive functioning is controlled by the frontal lobe of the brain which is damaged from prenatal alcohol exposure in FASD students (Mattson, Schoenfeld and Riley 2001). Students presenting with FASD may enter classrooms with executive function difficulties which will be evident through their difficulty to plan, predict, organise, prioritise and sequence. Additionally, executive functioning plays a role in the ability of children and
young people with FASD to set goals, be flexible within their thinking, adhere to schedules and be on time. Executive function allows individuals to use information and experiences from the past to solve current problems. For those students with FASD, this does not always happen. Due to their compromised executive functions, children and young people with FASD will endure difficulty when transferring learning from one situation to another. Executive functioning issues can produce a wide range of symptoms depending on which skills the FASD student finds difficult. Within the classroom, Mattson, Crocker and Nguyen (2011), Carpenter (2009) and Russell (2009) believe teachers may notice executive functioning difficulties in FASD students indicated by the following behaviours:

- Finding it difficult to commence a task
- Having trouble paying attention and/or is easily distracted
- Students may lose their train of thought when interrupted
- Requiring teachers to explain directions numerous times
- Difficulties with making decisions
- Find it difficult to transition from one activity to another
- Not having the language/words to explain something in detail

**Impaired Judgement**

Students with FASD may display an inability to make decisions within the classroom. If classroom teachers ask students with FASD to choose between activities, this may cause them confusion bringing about anxiety, frustration and therefore unwanted behaviours. Malbin (2002) explains that this difficulty is partly due to brain disorganisation and best practice for teachers would be to only offer one activity at a
time. Impaired judgement may also be observed in the inability of students with FASD to recognise danger or distinguish danger from safety, friend from stranger and their confusion of fantasy from reality (Malbin 2002).

**Challenges in Generalising Information**

Research has indicated that many students presenting with FASD experience challenges in generalising skills across settings, tasks, and with different adults. Behaviours or skills that we assume should be naturally transferred from context to context may be considered by the child to be a discrete set of skills for the specific environment or interaction (Carpenter 2009; Malbin 2002; Streissguth et al. 1997). This can often be confusing and frustrating for both parents and educators, as it appears the child has forgotten the skill.

The following example was given by a parent of a child with FASD:

The student is told that he must get down from the tree near the classroom and that he was not allowed to climb it again. He was found a few minutes later climbing the tree near the oval. When he was challenged, he said that he wasn’t climbing the tree near the classroom. He couldn’t generalise the rule from one tree to the other because in fact he was not allowed to climb any of the trees. When seen in the context of the brain injury, the child should have been congratulated for doing as he was told (i.e. not climbing the tree near the classroom) however he was punished. (Russell, A 2016 n.p.)
The ability to generalise learning from one situation to another is an important lifelong skill which many students presenting with FASD find challenging, as the example above illustrates. McLean, McDougall and Russell (2014) highlight that students with FASD will often come to the teachers’ attention due to repeatedly being in trouble for the same behaviour or by making the same mistakes within their work repeatedly. They explain that students presenting with FASD find it challenging to take what is learned from one situation and apply it to another and thus they continuously make the same mistakes. McLean, McDougall and Russell (2014) extend by explaining that, skills or social rules that FASD students may learn at home, may not be apparent within the educational setting.

**Retaining Information**

Research has indicated that memory difficulties are common with children and young people with FASD. While students with FASD do have memory skills that allow them to learn, they are often unable to retrieve specific information when needed. Many students with FASD with learning difficulties, have similar memory deficits; skills learned one day are forgotten the next, only to be recalled at some future time. Lost information is very frustrating for the student and educational performance may be inconsistent and unpredictable. Seth Russell (2016) explains that FASD students may appear to comprehend information that is presented to them, therefore classroom teachers may think that the student is comprehending and retaining the information being delivers. Children and young people with FASD are typically very social and
chatty, and their expressive language is much stronger than their receptive language. However, just because they are capable of repeating back information, does not mean that they understand or retain that information. These students describe themselves as lost in class when trying to process information as the teacher presents it (Russell, S 2016). Seth Russell (2016) explains that students with FASD need more time to process information as typically, they learn at a slower pace.

Students on the FASD continuum may have difficulties recalling learned information. Research has highlighted that FASD students may remember a task for two days and then forget the task on the third day. In a media interview, Morgan (Insight 2013) explains that as a student with FASD, she found it frustrating when teachers asked her to perform a task she had displayed competency in previously. Morgan added that she will often need to be shown a task again or be reminded of what needs to be done, even everyday tasks such as making a coffee. Supporting this, McBride (2012) describes another example of poor memory by explaining how as a classroom teacher she will give whole class verbal instructions on a task but will be required to use visual supports for those students presenting with FASD to ensure they know and understand the steps in a task without forgetting. This research developed in this project seeks to address the gap in knowledge about how FASD students work to overcome difficulties in retaining information, and understand how classroom teachers manage to adjust curriculum delivery and classroom environments to support memory recall.
Difficulties with Abstract Concepts

When compared with typically developing children, children with prenatal exposure to alcohol demonstrate greater difficulties forming and identifying abstract concepts in both verbal and non-verbal areas (McGee et al. 2008; Mattson, Schoenfeld and Riley 2001; Coles et al. 1997). Bernstein-Clarren (2004) along with Vicki Russell (2009) explain that due to the difficulties in understanding abstract concepts, students with FASD may struggle to understand basic maths concepts or concepts in relation to time and money. In support of Bernstein-Clarren (2004) and Vicki Russell (2009), the data approach presented in this research gives prominence to uncovering inclusive practices which scaffolds students with FASD learning, including learning through the use of concrete materials and a variety of curriculum delivery modes.

Sensory Processing Dysfunction

Coles (2011) explains that prenatal exposure to alcohol may also impact on an individual’s peripheral nervous system and cause sensory difficulties for students presenting with FASD. Coles (2011) adds that students presenting with FASD can present as over sensitive or under sensitive. Sensory processing disorder is a condition caused when the individual cannot organise sensory signals into appropriate responses. O’Malley and Storz (2003) state that, in some individuals certain sensations may overwhelm the nervous system, for example a light touch on the arm may be experienced as a painful touch. O’Malley and Storz (2003) add to this, explaining that in some individuals with sensory processing difficulties, some sensations may be experienced with less intensity than normal and some individuals may be seen to have a
high pain tolerance. Within the classroom, teachers may observe students with FASD over react to stimuli, for example, tactile defensiveness, reacting to different textures, smells, tastes, lighting and noise. On the other hand, students with FASD may under react to pain and not complain of broken bones and be unable to experience painful stimuli such as heat or cold (Russell, V 2009).

To address the lack of conclusive information about how students manage their learning environment, this project deliberately collects such information from classroom observations, semi-structured interviews and Yarning Circles with parents and caregivers. In doing so, it is designed to uncover new approaches and practices that are essential in providing an educational environment that minimises the sensory processing challenges reportedly faced by children and young people with FASD.

**Dysmaturity**

Dysmaturity can be defined as being ‘socially or developmentally younger than chronological age’ (Malbin 2002, p. 22). Malbin further explains dysmaturity as the gap between the chronological and developmental age in different areas of growth such as expressive language, language comprehension and emotional and social maturity due to prenatal exposure to alcohol.

Within the education arena, Malbin (2002) suggests that education professionals need to be alerted to the fact that students presenting with FASD may also be developmentally
younger than indicated by their chronological age. Many educators will expect children to develop and grow accordingly to an accepted chronological schedule and for physical, cognitive, and psychosocial development to occur at about the same rate as their peers. Unfortunately for students affected by prenatal alcohol exposure, these assumptions about development can impact on education professionals’ understanding of their abilities, and consequently, the expectations placed upon them. Developing the table below, Malbin (2002) intended to provide a visual indication, using an 18-year-old person diagnosed with FASD, for deficits that may be concealed by abilities, such as, emotional immaturity which may be hidden by strong expressive language skills.

<table>
<thead>
<tr>
<th>Timelines</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronological Age</td>
<td>18</td>
</tr>
<tr>
<td>Expressive Language</td>
<td>23</td>
</tr>
<tr>
<td>Social Maturity</td>
<td>12</td>
</tr>
<tr>
<td>Math Skills</td>
<td>8</td>
</tr>
<tr>
<td>Reading Decoding</td>
<td>14</td>
</tr>
<tr>
<td>Reading Comprehension</td>
<td>9</td>
</tr>
</tbody>
</table>

**Figure 7:** Table illustrating profile of an individual presenting with FASD. Chronological age vs actual age (Malbin 2002, p. 26).

According to Malbin (2002), expressive language and physical maturity may give a first impression of normal development, but it is only over time that educational professionals may notice that students with FASD social skills, emotional maturity and comprehension are of a lower level than that of their peers. Furthermore, the concrete thinking of these students reflects a lack of cognitive flexibility and is sometimes expressed through an inability to generalise rules and the experience of difficulty in social interactions. Often, the primary conditions of students presenting with FASD are
commonly mistaken as behavioural problems, therefore classroom teachers and educational professionals need to be reminded that it is the underlying central nervous system damage and the functional difficulties associated with this damage, that contribute to the secondary behaviours.

**Secondary Conditions**

Individuals presenting with FASD who experience neuropsychological and behavioural deficits are often at risk of acquiring secondary conditions throughout their lives. These secondary conditions are not present at birth, but can develop as a result of the primary conditions. Streissguth et al. (1997, p. 71) argue that secondary conditions often emerge over time due to a mismatch between the primary conditions and environmental expectations. Furthermore, Streissguth et al. (1997) indicate that secondary conditions among individuals with FASD may be prevented, or lessened, through early diagnosis, better understanding and appropriate interventions.

Over two decades ago, Streissguth et al. (1997) presented their findings of a longitudinal study on secondary conditions among individuals with FASD. The aim of their research was to examine the types and degree of secondary conditions that are associated with FASD. Through the application of the Life History Interview which was used to gather information about the lives of those participating, 415 individuals with prenatal exposure to alcohol aged between 6 and 51 with an average IQ ranging from 79 to 90 participated. The results of this study highlighted six main secondary conditions which had an impact on the lives of the participants including:
- Mental health issues
- Disrupted school experience
- Trouble with the law
- Confinement for inpatient treatment or imprisonment
- Inappropriate sexual behaviour
- Alcohol and drug problems

The results also demonstrated that one in two of the adolescents and adults had been confined, for example, imprisoned, admitted to inpatient mental health programs, or alcohol and drug treatment programs, and a further one in three of the adolescents and adults battled alcohol and drug-related problems (Streissguth et al. 1997, p. 4). A further study focusing on the secondary disabilities of adults in Canada with FASD conducted by Clark et al. (2004), found that 92% of the participants had a mental health disorder diagnosis and that these diagnoses included 65% ADHD, 45% depression, 21% suffered from panic disorder. Additionally, the results also indicated that diagnoses of obsessive compulsive disorders, oppositional defiant disorders and bipolar disorders were also reported (Clark et al. 2004, p. 10).

Alton and Evensen (2006) suggest that within the education arena, common secondary implications which classroom teachers may observe can range from hyperactivity, aggression, lying, anxiety, inappropriate humour and social skill deficits. These secondary conditions may arise due to the student with FASD feeling anxious within their learning environment, being bullied at school due to their primary condition, education staff not having a full understanding of FASD or the student’s individual
learning needs causing disengagement or unwanted behaviours. Rather than viewing students’ difficulties as behavioural problems, such as labelling them as being defiant, lazy, intentional, or manipulative, these behaviours should be regarded as symptoms of underlying neurocognitive deficits in executive functioning. As previously highlighted, Premji et al. (2007) along with Streissguth et al. (1997) suggest that secondary conditions may be reduced or prevented through a deeper knowledge of appropriate interventions for students presenting with FASD.

Despite the serious long term nature of the secondary disabilities that may occur with FASD, there are some environmental protective factors that have been identified which may lessen the impact of these secondary disabilities within the educational environment. Firstly, Blackburn, Carpenter and Egerton (2012) suggest that students who receive individualised learning programs geared towards their individual needs, learning styles, abilities and interests are more likely to achieve their developmental and educational potential. Furthermore, they suggest these students will become engaged and interested with curriculum set at a level which the students can experience success within the classroom.

Alton and Evensen (2006) claim that when educators create critical connections with students with FASD and their families, and work together to ensure the learning needs of the student are being met, many of the secondary behaviours such as frustration, anxiety and withdrawal are reduced. In support, Green (2007) and Kalberg and Buckley (2007) indicate that FASD children benefit from a stable and consistent environment.
For educators, this can be achieved by being consistent with expectations, implementing routines and structure and ensuring that the FASD students are aware of upcoming changes to their daily routine. In addition, Zieff and Schwartz-Bloom (2008) believe that observing any unwanted behaviour by students with FASD and documenting these behaviours will enable educational professionals to assess and address environmental factors which may be contributing to the student’s undesirable behaviour. Finally, through observations, knowledge and collaboration with parents, classroom teacher will be armed with critical information to inform their classroom design and curriculum delivery to provide an inclusive, engaging and consistent learning environment for learners with FASD.

**FASD and Inclusion**

With educational settings becoming ever more diverse, classroom teachers are devoting much more time to fine-tuning teaching and learning strategies that cater for a wide variety of learning profiles. With the current diversity in Australian schools, classroom teachers are compelled to rethink their teaching methods and pedagogies to ensure that the learning needs of all students are taken into consideration. Subban (2006) suggests that the everyday challenges faced by classroom teachers often result in disillusionment, fractious struggles and some frustration. In the face of such challenges, teachers must remain committed to ways of providing high quality education for all students, including students presenting with FASD.
Classroom teachers are expected to rise to the challenge of an increasingly diverse classroom, adjust their teaching strategies to accommodate varying learning styles, and to be psychologically and practically prepared to take on the dynamic role of inclusive educator (Ashman and Elkins 2004), with classroom teachers being regarded as the primary managers in the implementation of the philosophy of inclusive education (Haskell 2000). Teachers’ perceptions in relation to the evolving inclusive classroom, therefore, must be borne in mind, as these perceptions may influence their teaching behaviour and attitudes along with their acceptance of students with additional needs (Hammond and Ingalls 2003).

The Philosophy of Inclusion

Kluth, Straut and Biklen (2003) believe the philosophy of full inclusion represents a commitment to creating schools and classrooms in which all students, without regard to individual needs or disabilities, are educated together. Rather than trying to alter students so that they can fit into standard classrooms, inclusion aims to substantially alter educational settings to make them more responsive to diverse groups of learners. Additionally, inclusive classrooms reflect the belief that diversity is a positive strength in student cohorts and education settings and lives and should be embraced, rather than ignored or minimalised.

Within Australia, inclusive education has followed international trends, accepting the challenge to educate all students, in mainstream settings, in an equitable manner (Konza 2008). The Disability Discrimination Act of 1992 (Australian Government 2016) has
been a significant national policy change with regard to inclusive education. An initiative by the Australian Federal Government, the Disability Standards for Education 2005, further amends the Disability Discrimination Act (1992) and increases opportunities for students with disabilities to be educated in mainstream schools. The Disability Standards for Education 2005, also provides education professionals with information, strategies and guidelines on how best to support students with disabilities in mainstream settings. As Berlach and Chambers (2011) highlight, these guidelines are explicit in outlining the requirements for curriculum and social inclusion of students with special educational needs.

Within the workings of an educational setting, inclusive classrooms attempt to respond to the vast variety of diversity that students bring to the educational setting. Differences in race, ethnicity, gender, family background and religion, as well as differences in abilities and performance, are not dismissed in the name of standardisation, but rather appreciated and become a part of the curriculum itself. Inclusion is a human right or social justice principle which embodies values such as equity and fairness (Ainscow and Cesar 2006). Within an inclusive school setting, students are not treated in exactly the same way, but are given equitable and differentiated support to enable every student to have the ability to participate physically, socially and academically with their peers (Pearce 2009). Thus the educational environment, curriculum, teaching methods, assessment and reporting may need to be adjusted or differentiated to support all students. Just how these adjustments are best made is not well known, and if it is, is not well communicated with teachers. With this in mind, this research examines the current classroom practices of Australian teachers working with FASD students and their
families. Through their lived experience, this research reveals the approaches used by all members of the learning team as they work to provide an educational environment, with a strong philosophy of inclusive education.

Although an education professional can never accurately predict a student’s full potential or ultimate performance, all students do differ in their prior knowledge, current skills and competence. In an inclusive classroom these differences may lead to a student being placed in a particular reading or mathematics group, whereby the student will be able to participate physically, socially and academically with their peers (Pearce 2009). Educational pedagogies may require adaptation for some students which may include assistance with reading or have the option of presenting their knowledge in an alternative form, such as verbally rather than in written form. A student who has difficulty staying focused on a set task may require the amount of work to be reduced, have tasks presented one at a time and/or to be shown how to self-monitor. The reality is, that all students have abilities and strengths, along with areas in which they require more intensive instruction, and as education professionals we must make choices about how to act professionally in response to these differences, in educationally and justly appropriate ways.

Over the past three decades, the concept of inclusion has pressed the debate regarding the education of students with disabilities within mainstream schools. With this being said, inclusion seeks to completely remove the distinction between specialist settings and mainstream education, and also to provide an appropriate education setting for all
students, despite their level of ability or disability in their school. Inclusion involves a complete restructuring of the educational system so that all schools have the responsibility of providing facilities, resources and appropriate curriculum for all students, irrespective of ability. It is a philosophical move away from the accommodation of students with special needs in specialist settings into a mainstream system, towards a full inclusion model where everyone is considered equally, and where the needs of all students can be met.

**Inclusion Principles**

In recent times there has been a great deal written in relation to inclusion in the educational setting. For many, it is seen as the logical development of a more tolerant and accepting society, an extension of the basic human right for all people to participate in that society regardless of any disability or difference. Inclusion is a notion that extends to many areas of social policy, including anti-discrimination laws, care in the community, employment and education. Within education, the debate around inclusion has focused primarily on the rights of students with disabilities to attend mainstream schools (Foreman 2015). Winter and O’Raw (2010) explain that inclusion and the rights of students with additional needs is an international debate that has been the topic of deliberation at the highest level (see for example, UNESCO, 1994).

In 1994, delegates from 25 international organisations and 92 national governments met in Spain under the auspices of UNESCO, where the Salamanca Statement on Principles, Policy and Practice in Special Needs Education was formulated. Five principles were
proclaimed to issue from the Universal Declaration of Human Rights. They were as follows:

1. Every child has a fundamental right to education and must be given the opportunity to achieve and maintain an acceptable level of learning.
2. Every child has unique characteristics, interests, abilities and learning needs.
3. Educational systems should be designed and educational programmes implemented to take into account the wide diversity of these characteristics and needs.
4. Those with special educational needs must have access to regular schools which should accommodate them within a child centred pedagogy capable of meeting these needs.
5. Regular schools within this inclusive orientation are the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society and achieving education for all: moreover, they provide an effective education to the majority of children and improve the efficiency and ultimately the cost effectiveness of the entire education system (UNESCO 1994, pp. 8-10).

Based on the above principles, those advocating inclusive education argued that maintaining two educational systems, specialist settings and mainstream schooling is unfair and inherently unequal. Additionally, Loreman, Deppler and Harvey (2005) explain that inclusion cannot completely occur where exclusive, specialised and segregated settings exist. Clough and Corbett (2001) suggest that one of the key reasons that students, with diverse learning needs, are frequently not successful, is
because there is such a low expectation placed on those students from all members of the educational team. Additionally, Ainscow and Sandhill (2010) suggest that outcomes for all students are not going to improve until the behaviour and expectations of school staff change. Ainscow and Sandhill outline how change might be accomplished, ‘in effect, enlarging their capacity to imagine what might be achieved, and increasing their sense of accountability for bringing this about’ (2010, p. 412). Change in adult behaviour may involve ‘tackling taken for granted assumptions, most often relating to expectations about certain groups of students, their capabilities and behaviours’ (Ainscow and Sandhill 2010, p. 412).

In conducting this enquiry, it became evident that it is important to identify how teachers develop the best ways to confidently engage students and assist their learning. This research is designed to highlight how classroom teachers in an Australian school have embraced the challenges faced by students with FASD within the education setting. It further examines the ways in which teachers’ work, including the approaches they employ, to address the diversity of all learners.

Furthermore, people supporting inclusive education have argued that segregation, particularly by placement in special schools, is ethically wrong and educationally ineffective. Advocates are convinced that the opportunities for socialisation and development presented by mainstream schools represent the greatest chance for social acceptance of people with disabilities within mainstream society. The benefits of such
thinking are potentially significant because, by definition, inclusive schools value
diversity and strive to offer the maximum learning opportunities for all students.

Inclusive Education in Practice

Inclusive education within Australian schools is predominately seen as a right for all
since the Australian government passed the Disability Discrimination Act in 1992.
Government Schools within Australia are required to enrol all students. However,
depending on circumstances, they are not obliged to admit all students to the classroom.
In exceptional circumstances an educational facility can refuse admittance to disabled
students. Refusing admittance is permissible if there is demonstrated justifiable
hardship, that is, if a child’s disability requires the school to make vast structural
changes that require additional funds, or if that child’s disability may cause detriment to
them or others (Australian Government 2016, p. 21). The educational facility may then
refer the student and their family toward a more appropriate setting.

Although there are a variety of specialist schools throughout Australia catering for
student with differing diagnosed disabilities, a high percentage of students with
additional learning needs are being catered for within mainstream schools with minimal
access to specialist support. Ever since the implementation of inclusive education
principles, Australian research has consistently revealed that many in education, while
philosophically accepting the concept of inclusive education, are resistant to the
inclusion of students with significant problems, particularly those with severe
intellectual disabilities and emotional or behavioural disorders (Konza 2008). Further
research by Cassady (2011) indicates that the attitudes of teachers towards inclusion are considerably subjective by their own perceived levels of effectiveness, particularly in the teaching and educational provision of students with disabilities in their classrooms.

Accordingly, it has become increasingly important to support and resource all education professionals in a way that will assist them to better understand and implement a programme of inclusive education. To empower education professionals with the key knowledge to successfully maintain an inclusive classroom, Forlin (2004) believes that it is important for all educational workers to have a clear understanding of the difference between inclusion and inclusivity. Berlach and Chambers (2011), along with Forlin (2004), consider inclusion as bringing children with differing needs into mainstream classrooms, compared to inclusivity which is identified as embracing the challenge of providing the best possible learning environment for all children. Giallo and Little (2003) argue that from teachers’ perspective, being asked to implement something about which they have very little knowledge, confidence or training, can create psychological conflict. Forlin, Keen and Barrett (2008) found that teachers expressed serious concern when attempting to include inclusive strategies with children with special needs.

Forlin, Keen and Barrett (2008) claim numerous teachers within Australia’s education system believe that they do not have the skills or knowledge to effectively teach children with diverse needs. This raises two key questions, firstly it wonders how can educational professionals be supported to ensure students presenting with FASD achieve optimum learning and secondly, what knowledge is required for education
professionals to support students with diverse needs such as students with FASD. To alleviate some of the fear and uncertainty associated with inclusive education, educators are able to use a variety of community members and other resources, such as parents, caregivers, community groups, and professional development activities, to enhance their knowledge about the additional needs of their students and to build collaborative partnerships.

Research in the field of inclusive education has highlighted the process of collaborative partnerships as necessary for developing and executing successful individualised programs for students with special needs in inclusive settings (Winter and O’Raw 2010; Konza 2008; Hobbs and Westing 1998. A study, conducted by Hobbs (1997, p. 37), emphasised that ‘when professionals worked collectively with parents, additional intervention plans and actions associated with inclusive education were developed than when educators worked alone’.

Results of the Qualitative Study of Student Teachers’ Experiences with Collaborative Problem Solving, conducted by Griffin, Jones and Kilgore (2006), discusses how collaborative partnerships may be impeded by the lack of knowledge that an educational worker may have in relation to a student’s individual needs or diagnosis. It is vital that education workers, working directly with students with physical, emotional or learning implications, take time and use available resources to educate themselves about the specific needs of that student. This enables them to confidently adapt curriculum, put in place achievable learning programs, provide appropriate support and resources and
ensure the students and their support network have a challenging, but achievable, educational experience. Moreover, specific research conducted by Loreman and Deppler and Harvey (2005) highlights the importance of teachers in preparation for inclusion through training in inclusive practices, changed pedagogy and planning, assessment and reporting for children with special learning needs, as well as ongoing professional development for educational workers.

If educational facilities are to meet the challenge of educating increased numbers of students with diverse needs, educational workers are asked to embrace instruction and curricula that engage and encourage all students (Zeiff and Schwartz 2008). Within this context, this research will identify professional knowledge and considers how to assist with the development of effective learning environments and the implementation of inclusive pedagogies to support education professionals in providing a challenging, supportive and successful learning outcome for all students including students deemed to be on the FASD spectrum. Kleinfeld and Wescott (2001) and Streissguth (1997) have identified that one of the difficulties educators face in developing expertise in working with students presenting with FASD, is the lack of training and knowledge in relation to the educational needs of children and young people with FASD.

The role of education professionals is pivotal to ensure that students presenting with FASD reach their maximum potential both academically and socially throughout their educational journey (Streissguth, LaDue, and Randels 1988). Education professionals may be the most important and stable influences in the life of a child or young person.
with FASD. As such they have the ability to make an enormous difference in the child's self-esteem, quality of life and their educational outcomes provided the education professionals have the knowledge, training and skills (Streissguth 1997).

Inclusive education seeks to completely remove the distinction between special and mainstream education and to provide an appropriate education for all students, despite their level of ability, in their local community school. Inclusive education involves a complete restructuring of the educational system so that all schools have the responsibility for providing the facilities, resources and an appropriate curriculum for all students irrespective of disability or individual learning styles. Carroll, Forlin and Jobling (2003) have established that changing attitudes towards people with disabilities requires both information about these disabilities and experience with people with disabilities. Although within Australia FASD is not presently acknowledged as a disability, students with FASD are attending our schools and both the educational staff and government need to ensure that these students are supported within their educational journey so they have an opportunity to become contributing members of our society and that they are given every opportunity to experience success within the classroom.

The literature indicates that many people incorrectly interpret the symptoms of FASD as behaviours that are under the control of the individual. The symptoms are, in actuality, a result of the individual’s brain damage and as such, children and young people with FASD often do not respond to typical behaviour management strategies. The symptoms
of FASD often fluctuate, which can cause them to be misinterpreted as behaviours. For example, children with FASD can master and execute a skill on one day and be unable to perform it later in that week or in some instances the very next day. A high number of students presenting with FASD have a wide range of other diagnoses such as Oppositional Defiant Disorder, Attention Deficit Hyperactive Disorder and/or Asperger’s Spectrum Disorder. Although conditions can co-exist, it is important to note that the brain damage associated with FASD pre-dates any other issues.

As the literature shows, individuals with FASD have a permanent brain based disability. This brain damage can include missing brain structures, damaged brain structures and damaged brain pathways and connections. Due to differences in exposure patterns such as when their birth mothers consumed alcohol and to what extent, the type of damage sustained and the symptoms expressed varies greatly from individual to individual. Within the education arena, it is important for classroom teachers to recognise that students on the FASD continuum are diverse, and each unique, and that each student with FASD enters the school system equipped with varying strengths, abilities and prior knowledge. For this reason, understanding every individual student’s unique learning style is essential when creating a framework of differentiated strategies and curriculum for classroom teachers to assist with providing a positive, safe and academically challenging educational experience for Australian students, including those presenting with FASD.
When working with students with additional needs it is imperative that all educators are fully aware of both the Disability Discrimination Act 1992 and the Disability Standards for Education 2005, to ensure that all students with additional needs, including students presenting with FASD, are adequately and appropriately supported within the educational setting and given the educational opportunities within the curriculum to use their personal strengths and learning styles to experience success both in education and societal terms. Educators must know of their legal responsibility to all students, parents and caregivers and that the ultimate goal of education is to work towards an equitable and desired quality of life for all students, including those with Fetal Alcohol Spectrum Disorders.
CHAPTER FIVE

METHODOLOGY

Introduction

The literature review illuminated the gaps in Australian research, policy and support for educational staff working alongside Australian students presenting with FASD and their families. These gaps inform the conceptual framework for the study which focus on three important issues: knowledge and understanding of FASD, policy and structural supports and educational practices. This chapter includes a detailed description of the research design implemented in response to this gap, and describes the methodology utilised within this research. The chapter outlines the informed decisions behind the development of the design and the methods used to effectively work in partnership with members of one school community within Australia. The research draws on the current classroom practices, parents’ and caregivers’ perceptions, and available public documents. It asks:

What are the professional knowledge and the associated classroom strategies required for educational professionals to educate and provide optimum learning and support for students on the FASD Spectrum within Australian schools?

The data collected to inform this research are collated from a rich study of learning success of students with FASD in one Australian school with a high enrolment of children and young people presenting with FASD. The research site also includes a
high number of Aboriginal students. With this knowledge, it was important to ensure that Indigenous knowledge systems are utilised to inform the development of an appropriate methodology. This research builds on a practitioner research model and includes research tools adopted from case study, grounded theory, participatory action research and critically, Indigenist research methodologies.

**The Role of the Researcher**

Denzin and Lincoln liken the role of the researcher to quilt makers, ‘as they stitch, edit and put slices of reality together’ (2005, p. 4). Additionally, Denzin and Lincoln believe this process creates and brings psychological and emotional unity, creating a pattern to inform experience. The role of the researcher within this study includes an important responsibility to explain clearly and concisely, present data and inform all stakeholders in relation to educational strategies and resources required to ensure that all Australian students on the FASD spectrum are able to access educational environments that provide optimum learning experiences, as well as the professional knowledge to support Australian students presenting with FASD.

Denzin and Lincoln (2005) suggest that the researcher must understand that the research process is interactive and is shaped by the researcher’s own personal history, biography, gender, social class, race and ethnicity, and by those of the participants within the researched setting. Researchers bring to any study many aspects of their own lives; experience and reality weave together the multiple aspects of another’s life experience.
Researcher Bias

Bias can occur at any phase of research including the study design, the data collection process, as well as in the procedure of data analysis and publication. According to Bless, Higson-Smith and Kagee, ‘as human beings, researchers can never be completely neutral’ (2006, p. 146). Throughout this research, the researcher works to remain as unbiased as possible, reporting only on classroom practices, pedagogies and the school setting being investigated. Notwithstanding this goal to remain unbiased, Bless, Higson-Smith and Kagee caution by stating that, ‘throughout the research process the beliefs of the researchers, their political, religious and racial attitudes and other convictions play an underlying role’ (2006, p. 146).

Throughout this investigation the researcher’s position is aligned with what Patton (2014, p. 49) describes as ‘empathetic neutrality’. In this research, it was critical to maintain conscious awareness of the fact that the researcher should remain neutral at all times. According to Patton:

The neutral investigators commitment is to understand the world as it unfolds, to be true to complexities, multiple perspectives as they emerge and be balanced in reporting both confirmatory and disconfirmatory evidence with regards to any conclusion found. (2014, p. 51)
By firstly explicitly positioning myself inside the research as an Aboriginal woman and educator, I acknowledge that my role within this investigation is to observe, record, investigate and then discuss findings. As Patton states, ‘credibility depends less on sample size than on the richness of the information gathered and on the analytical abilities of the researcher’ (2014, p. 67). Positioning myself as a neutral and Indigenous researcher also assists in overcoming the blind spots and biases of western research models.

**Connecting to Country: An Indigenous Researcher and Other Indigenous Peoples**

The first priority was to establish respectful and collaborative ways of working alongside the community and to develop a culturally appropriate approach in the context of both FASD as well as the Aboriginal and non-Aboriginal members of the community. Understanding these approaches enables the research to be conducted respectfully with Aboriginal and Torres Strait Islander peoples and their communities, and to affirm, apply and secure Indigenous knowledge.

In contemporary times, Indigenous peoples are often marginalised minorities in areas of territories and states over which they once held sovereignty (Tuhiwai Smith 2005). Tuhiwai Smith also asserts that Indigenous peoples across the world have a story to tell, but have rarely had the opportunity to tell it. She adds, that Indigenous peoples’ stories and experiences represent an additional perspective, but they also question assumptions
about the nature of knowledge and research, notably western approaches to research. Extending on this, Tuhiwai Smith explains Indigenous peoples ‘as the assembly of those who have witnessed, been excluded from and have survived modernity and imperialism’, and includes those ‘who identify their ancestry with the original inhabitants of Australia, Canada and other countries worldwide’ (2005, p. 86).

Following in the footsteps of Robyn Parkes-Sandri (2013, p. 6), this thesis is constructed as a “two-way strong” document, informed by western literature as well as Indigenous knowledge. Martin Nakata (2007) recommends that Indigenous scholars should use their western training as strength: this resonates with my role as an Aboriginal woman educated through western knowledge. I am aware of the position in which I am placed. This position, as an Aboriginal woman, researcher and educator, guiding research on another Country, is unfamiliar territory. Further, undertaking research about the sensitive topic of FASD adds to this complicated dynamic. Although in unfamiliar territory, I still experience a strong spiritual connection to the people and location where the research was undertaken.

“Country” is an Aboriginal concept that many non-Aboriginal people may find difficult to understand. A person’s Country is the traditional lands from where their ancestors, back to creation, have come. “Knowing Country” means that you know the language, the land, the stories, the dances, the lore and through this, the spirit of that Country. In this context, Country, in an Aboriginal worldview, is seen as a living subject as opposed to the objectification that attends western conceptions of land. McLaughlin (2012)
explains that connection to Country involves the responsibility to nurture the land so that, in turn, the land will nurture us. It is this knowledge of the land and this connectedness to Country that gives us our identity and pride.

As Aboriginal people, and as far back as our stories go, we know and respect the need to seek permission to walk on another’s Country. This perspective was clarified in historical terms by Aboriginal Elder, Aunt Janine when interviewed by the Mildura Midweek on June 7th 2015, in relation to the importance of Aboriginal tradition. Aunt Janine explains:

Back in the old days, someone might sit at the boundary, ‘on the fringe’, it was called, until that mob welcomed them to travel through. The welcome gave you safe passage and it meant you could camp and gather food and you had to care for the Country while you were there. (Wilson 2015, pp. 74-77)

Prior to commencing this project, I travelled to the research site to meet and talk with both the school community and traditional owners of the land. When meeting with the traditional owners I explained the purpose of my intended project, who I was as an Aboriginal woman and my connection to my own Country. It is this relatedness that positions me within and of the research. In doing so, my responsibility within this research can be framed as relational accountability from the standpoint of an Aboriginal
researcher who understands and respects traditional systems of knowledge (Wilson 2001).

**Indigenous Knowing**

Wilson (2001) explains that an Indigenous methodology requires discussion around relational accountability and as an Aboriginal researcher I am responsible for all the relations I have when I am undertaking my research. As Aboriginal people, our systems of knowledge are built on the relationships we have, not just with people or objects, but with our surroundings, ideas, concepts and everything around us. Wilson suggests that when we, as Aboriginal people, are conducting research, it is important to think about our relationship with the ideas and concepts we are explaining. These relationships are shared and mutual: ideas or knowledge cannot be owned or discovered by individuals alone.

In preparing to determine the methodology for this research and to document it within this chapter, research involves not only review of western articles, government policy and books, but is critically, based on advice from, and listening to Elders and Indigenous academics. This is done in order to illuminate an effective research methodology that builds on and intertwines western academia and Indigenous knowledge systems. Sefa Dei, Hall and Rosenberg suggest that Indigenous knowledges are unique to given cultures, localities and societies and are acquired by local peoples through daily experience (2000, p. 19). Adding to this, Karen Martin (2003) states that
our knowledge or our Ways of Knowing are consolidated through people exercising their connections to Country. Martin explains that:

Knowledge is a part of the system that is our Ways of Knowing. It is more than just information or facts and it is taught and learned in certain contexts, in certain ways and is purposeful only to the extent to which it is used. For instance, watching or observing is not a passive activity but the strength in knowing what to observe and when to apply the knowledge gained from such an activity. Our Ways of Knowing are embedded in our worldview and are an equal part of this system, not an artefact of this. They are socially refined and affirmed, giving definition and meaning to our world. Without knowing we are unable to be hence our Ways of Knowing inform our Ways of Doing. (2003, p. 7)

For centuries ways of knowing have passed from one generation to the next in forms that pre-date the printing press. Aboriginal communities have always had a means of transmitting knowledge about the land, or Country as well as history, kinship, religion and the means of survival, even if this knowledge was never written in books or stored in libraries, as non-Aboriginal people have done. Younger generations learn from older generations through participation, observation and imitation. Certain types of knowledge, such as religious and ritual knowledge, are imparted at specific times and in an organised and managed way, often as part of initiation ceremonies. Scholars,
Cannella and Viruru argue that all knowledge is constructed based on worldview and no one construction of knowledge is ‘the truth’ (2004, p. 72).

According to Tuhiwai Smith (2005), Indigenous people recognise that research has historically oppressed their truth, worldview and knowledge. Tuhiwai Smith builds on the work of Rigney (1999) who emphasises that knowledge and writings about Indigenous worldviews and realities have always been masked by the cultural and race bias of the non-Indigenous interpreter. Cannella and Viruru (2004) agree with Rigney that, over the past fifty years, research practices on, and with, Indigenous Australians have seen a transformation due to the Indigenous Research Reform Agenda. Indigenous academics and leaders in higher education institutions within Australia are advancing a research reform agenda based on the position that, historically, university based researchers have adopted Indigenous cultural knowledge to their own advantage and that higher education sponsored research continues to contribute toward the marginalisation of Indigenous community interests (Abdullah and Stringer 1997; Winch and Hayward 1999; Atkinson et al. 1994).

Indigenous knowledge comprises a specific way of knowing based on the oral tradition of sharing knowledge. This is comparable to what different Indigenous researchers internationally identify as storytelling, yarning, talk story, re-storying, re-membering (Thomas 2005; Absolon and Willett 2004) and it significantly pre-dates the western knowledge research paradigm development and documentation. Kovach (2010) explains that the conversational method is a means of gathering knowledge found within
Indigenous research and it is also of significance to Indigenous methodologies because it is a method of gathering knowledge based on oral story telling tradition congruent with an Indigenous paradigm. Indigenous scholars have referenced the use of story through conversation, as a culturally essential way to gather knowledge within research (Thomas 2005). Within this research, as many of the parent group were of Aboriginal heritage, parents and caregivers were provided an opportunity to participate in culturally safe and appropriate “Yarning Circles” (Bessarab 2008) to share their knowledge, stories and experience relating to the education of their children. This adds depth to the data whilst also ensuring parents and caregivers perspectives were considered.

Thomas (2005) also observes that storytelling has a holistic nature that provides a means for sharing memories that awaken the spiritual, emotional, physical and mental. In reflecting upon story as a dialogic method that evokes the relational, Maori researcher Russell Bishop introduces the notion of ‘collaborative storying’ which positions the researcher as a participant (1999, p. 6). He adds that, as both parties become engaged in a collaborative process, the relationship builds and deepens as stories are shared.

Throughout this research there were many times where I found myself walking within two worlds and questioning myself, about if the research I was conducting would add to the voice of Aboriginal people of the area, the educational profession and the academic world. I questioned whether I was Aboriginal enough to be accepted by the traditional custodians within this community as an Aboriginal relative and researcher or if I am too
It was imperative that I acknowledged a participatory connectedness with the participants and promote a means of knowing in a way that denies distance and separation, yet promotes commitment and engagement. For collaborative storying to occur it was essential to build strong cultural and collaborative relationships within the community allowing a true connection to the land and a deeper understanding of the unwritten but significant protocols. Through the sharing of my cultural heritage, my family, place and being, I am claiming and declaring my genealogy, my ancestry and my position, firstly as an Aboriginal woman and then as an Aboriginal researcher and participant concurrently.

A further identity I am navigating within this research is that of a teacher and teacher educator. As a primary teacher and a special needs educator, undertaking practitioner research with the intention of researching practice of learning communities within schools, it is important to be aware of my role as a practitioner within this research.

In 2008 at the Fourth International Congress of Qualitative Inquiry, Bessarab discussed the importance of yarning as a research method. Within her presentation, Bessarab (2008) acknowledges that yarning is a Noongar (south-west Western Australian) term for having a conversation or talk. Bessarab also points out that there are different forms of yarning which include social yarning, research yarning, collaborative yarning, and therapeutic yarning. Furthermore, Bessarab identifies research yarning as that which is directed around a particular area of curiosity with a specific purpose in mind.
Knowing I would be walking in two worlds, the academic world premised on western frameworks and my own cultural world of knowing and being, the approach required for this investigation needed to be a flexible and collaborative one. As the research is based on actual teaching practices currently employed by participants, and the experiences of parents and caregivers, the research paradigm needs to ensure the participants’ current knowledge and skills are recognised and respected, whilst allowing the participants to be actively involved in all processes to ensure research outcomes are authentic and valid. This is true for all participants, Aboriginal and non-Aboriginal. More importantly, as an Aboriginal researcher, it is vital not to repeat colonial mistakes and to ensure that all contributors are able to participate to what is transcribed about them. To achieve these goals in the practice of the research, a “two-way strong” research method is planned, and as such, is developed through the lens of Aboriginal knowledge systems and yet can be described in western research terms.

**Aboriginal Knowledge Systems**

Aboriginal knowledge systems are used by Aboriginal people to make sense of life in today's world. Knowledge systems span across cultures, histories and geographical spaces that go beyond the physical world and lead to a 'self-generating' path to infinite unforeseen realms of knowing (Sefa Dei, Hall and Rosenberg 2000, p. 27). These knowledge systems connect human beings to other living beings, environments, the Creation ancestors and maintain the life of Aboriginal People (Weber-Pillwax 2004). Brown and Strega (2005) believe that there is no one definition of Indigenous knowledge or Indigenous ways of knowing because it encompasses a holistic perspective in which arts, science, religion or philosophies are not separated. Berkes
nevertheless offers a small insight of what it includes as a ‘cumulative body of knowledge and beliefs, handed down through generations of cultural transmission about the relationship of living beings with one another and with their environment’ (2008, p. 7). Within Australia, Indigenous researchers such as Martin (2003) and Rigney (1999), indicate that western research simply interprets Indigenous knowledge from a western framework which can in reality distort findings and research outcomes. By combining both Indigenous and western approaches this research aims to avoid this shortcoming.

**Researching: Walking in the Indigenous Space**

As an Aboriginal researcher, walking the fringes between academic and Indigenous worldviews, it is imperative to find a way to stay true to the Indigenous practices, whilst respecting the requirements of the academy. Tuhiwai Smith (2012) advises that the process, methodology and method in collaborative community based research are far more important than the outcomes of the research. The researcher needs to be respectful, safe, prioritize the participants’ voices, be guided by the community and maintain respectful relationships with kin. In this context the word “kin” is used as a description of relationships with all entities including people and Country.

Relationships, with all life forms, are respectful and are relational. In life, we only take what we need and give back and offer thanks. For the researcher, visiting another’s community and building relationships with the community are the foundation of the
research. In this project, these relationships have been built in a very strong, sensitive and respectful manner.

The researcher’s Aboriginal heritage provides a unique position from which to investigate what teaching strategies are required to support students presenting with Fetal Alcohol Spectrum Disorders (FASD) within Australian schools within this township. Whilst, my Aboriginality gives a unique insight into the lives of the peoples of this area, I am not instantly accepted on that basis alone. This is partly due to cultural protocol. In cultural protocol, “who speaks for which land” is an extremely important issue, and has an impact on notions of the “insider” or the “outsider”.

Prior to Cook’s invasion of Australia, it is estimated that over 250 differing language groups, or tribes, existed across the whole continent, each operating as independent and sovereign entities (National Indigenous Language Survey 2005, p. 3). One of the markers of autonomy was the geographical boundaries which helped separate one tribe from the next. Cultural protocol requires that to visit another tribe’s Country, one has to get permission. To travel is tolerated, but to stay and visit and live off someone else’s Country, one needs permission.

When I was younger, knowledge was passed down to me about these protocols for visiting another’s Country. It was explained that if one person wanted to visit a tribe, they would go and sit or stand near a group, but far enough away to show respect. They
would have to wait there, show themselves, until a member of the clan whose country it
was came over to ask them what they wanted. Thus, complex rituals and protocols had
to be observed if a person wanted to visit another’s Country. These rituals and
protocols were localised knowledge and not generic, highlighting the diversity of our
culture and differing approaches and practices. This concept remains in use today
across most of Aboriginal and Torres Strait Islander Australia, albeit at times in slightly
changed manifestations.

Thus, in keeping with culture and respect, I needed to be invited into this community
before I could speak with community members. I needed to meet people and share with
them my heritage, geographical background and my people before discussing my
intentions. When community Elders or respected persons were ready, I explained my
intentions and asked if I could stay for a while to conduct this research, which I did, and
was accepted. With this protocol observed, I was welcomed into the community by
community Elders and guided in local cultural ways and traditions whilst also having
the ability and opportunities to be immersed in the local lifestyle.

**Indigenous Knowledge Systems Protocols for This Research**

**Methodology**

To implement and respect Indigenous Knowledge systems and protocols so that the
research maintains and protects Australian Aboriginal cultural values, this research
draws on practitioner research. It focussed on qualitative data collection methods and
reflective practice conducted in an ethical and culturally appropriate manner. These procedures draw from the participatory action research model of Kemmis and Taggart (2005). Although recent progress has been made through the incorporation of participatory action research procedures in Indigenous communities, it is imperative to understand why Indigenous people and their communities may object to the idea of building a partnership with researchers and why Indigenous communities may be wary or apprehensive when presented with a research proposal (Cook 2006). Within the practitioner research framework for this methodology, an Indigenist approach is essential to enable the application of participatory action research procedures (Denzin and Lincoln 2008).

Castleden, Garvin and Huu-ay-aht First Nations (2008) report that research occurs within a set of socio-political conditions, and research involving First Nation communities worldwide has had a historical association with colonialisation. Consequently, Indigenous peoples have been understandably sceptical and unenthusiastic about becoming the subjects of academic research (Castleden, Garvin and Huu-ay-aht First Nations 2008). It is well recognised that research is not a culturally neutral process and although Indigenous populations are the world’s most researched peoples, they have gained the least benefit (Tuhiwai Smith 2012; Rigney 1999).

The history of research on Indigenous peoples, both locally and internationally, has produced a deep distrust of research. Information gained from a series of community
workshops indicate that Australian Indigenous communities remain suspicious of research conducted by mainstream organisations (Onemda 2007). Australian Aboriginal writers, Lester Irabinna Rigney (1999), Jackie Huggins (1998), Rosemary van den Berg (1998) and Michael Dodson (1995), argue that the extent of research conducted in Australian Aboriginal lands and on Aboriginal peoples since the British invasion in the late 1770s, is so immense it makes them one of the most researched groups of people on earth. Additionally, Martin (2003) highlights that undeniably, in some social science disciplines Australian Aboriginal peoples are over-researched and this has generated mistrust, animosity and resistance from many Aboriginal people. Taking this into consideration, this project utilises Indigenous Knowledges, in so far as, all aspects of the research practice and fieldwork are guided by Elders and community members. This is vital, not only for building trust, but also for reconfiguring the value of Elders’ and community members’ knowledge, and enhancing the potential for the research to also be meaningful for the community.

Throughout the past 50 years there has been a growth in Australian Aboriginal scholarship which has become evident through the works of Aboriginal writers across a range of genres from academic to creative. This positive growth is defined by the strong positioning of Aboriginal voices in printed texts and through strong Aboriginal people taking a lead and speaking publicly about Indigenous knowledges, their communities, experiences, traumas, frustrations and histories. Moreton-Robinson and Walter (2009), Kuokkanen (2000) and Rigney (1999) argue that the growth has also seen the evolution of Aboriginal research theories and methods that privilege Aboriginal voices, articulate responsibility and accountability to community and the importance of
honouring Indigenous worldviews. Collectively, the research theories and methods are
defined by Rigney as ‘Indigenist research’, a body of knowledge constituted by
Importantly, Rigney explains that an Indigenist placing and method are formed around
three principles: resistance, political integrity and privileging allowing a strategy for
Indigenous research by Indigenous peoples, for Indigenous peoples, and in the interests
of Indigenous peoples (Rigney 1999, p. 8).

In Canada, Battiste (2000) elaborates the role of research in enabling people and
communities to reclaim and convey their stories in their own ways and give testimony
to their collective experiences, stories and struggles. In contemporary research
practices, narratives are typically recognised as powerful means for resistance and
change because they bond the past to the future (Archibald 2008; Tuhiiwai Smith 2012).
Within Australia, Nakata contends that the Indigenist thesis must resist a prescribed
academic space whilst Nakata argues that to define a thesis as “Indigenist” means that it
may also be “othered” and compared to western research (2007, p. 8). In support,
Rigney argues that using an Indigenous methodological framework within research
means pushing boundaries ‘in order to make intellectual space for Indigenous cultural
knowledge systems that were denied in the past’ (2001, p. 39).

In the discussion paper titled, “Koorie Research Programs: Ethics, Protocols and
Methodologies”, Atkinson et al. argue that Koorie (south-east Australia) research must
move from ‘a positivistic positioning of Koories as objects of others’ enquiries to
research paradigms which attempt to redress the oppressed, marginalised “border” reality of Koorie nations in contemporary Australian society and within this society’s academic institutions’ (1994, p. 4).

Globally, many First Nations academics have been exposed to two cultural spaces and worldviews, those of their traditional heritage and then that of the western world. As Karen Martin suggests, for Indigenist research to be recognised by western research it must also identify its methodology (2003, p. 12). Nevertheless, western research is a western practice and in this way, it is not a feature of our Aboriginal ways, so a research framework that is entirely Aboriginal is rarely possible when researchers bring both personal training and western academic training to their research. Martin (2003) and Rigney (1999) believe that Indigenist research acknowledges these dichotomies and operates through centring Aboriginal Ways of Knowing, Ways of Being and Ways of Doing in alignment with aspects of western qualitative research frameworks.

Indigenous research reform advocates are not necessarily advocating for the development of new research methods, but instead for the re-positioning of Indigenous peoples within the construction of research. The methodology proposed here builds on all these elements and is positioned as an Indigenist constructivist qualitative paradigm of research. This methodology works to bring together Indigenous knowledge systems and western methodologies and so generate a successful collaboration between peoples and country, Indigenous and non-indigenous, for mutual respect.
Methodological approaches are included within the Indigenous Research Methodology framework on the basis that they represent a capacity for achieving this aim. For example, Winch and Hayward identify some methods of qualitative data collection such as participant observation, community study, collaborative inquiry and oral history, which are preferred by Aboriginal people in Australia (1999, p. 25). Taking this under consideration, this research is framed through the lens of practitioner research and draws on qualitative data collection methods which commence with the recognition of Aboriginal peoples, ways of knowing and knowledge systems and also a recognition of participants as coproducers of knowledge.

**Research Design**

Bless, Higson-Smith and Kagee describe a research design as the ‘planning of any scientific research from the first to the last step’ and ‘a program to guide the researcher in collecting, analysing and interpreting observed facts’ (2006, p. 63). The research design and methodology are therefore important aspects of this study, as they map out the designated plan from the beginning to the end of the process. The research design for this investigation is informed by an approach based on relationality with community members and participants. Therefore, it is important that when collecting, analysing and interpreting data, this research methodology, based in relationality, always takes relationality into context. The practitioner research design here includes Indigenist research practices which demand relational accountability. Using participatory action research approaches assist in delivery of this goal.
Denzin and Lincoln (2005) explain that, through the use of a qualitative research design, the research can capture intimate portrayals and perspectives of participants in action. In support of Denzin and Lincoln (2005), Merriam notes that qualitative research offers ‘the greatest promise of making significant contributions to the knowledge base and practice of education’, as it ‘focuses on discovery, insight and understanding from the perspective of those being studied’ (2009, p. 1). To understand the knowledge that classroom teachers require when educating students presenting with FASD within Australian schools, it is critical to work with those individuals who are information rich, with current knowledge and experience of educating students presenting with FASD. Therefore, the participants within this research include classroom teachers, school administrators, parents and caregivers as well as community members. Their words, actions and their meanings are collected, documented, interpreted and reported allowing multiple perspectives, in an attempt to give a well-rounded and informed understanding of FASD students within the educational environment.

The research is presented as a case study and applies a core method of analysis and reporting of the data collected throughout the research that is based on the use of practitioner research. Further it connects qualitative data collection methods and Indigenous knowledge systems. This approach allows for the data to describe in depth the specific practices utilised by education professionals when working with FASD students.
Practitioner Research

Teacher educators need to embrace practitioner action research of classroom practice. Such research serves to improve practice, inform the teaching profession, and serves as modelling for future teachers to become practitioner researchers in support of their own efforts to meet the learning needs of the students with whom they work as, well as develop an informed voice in policy decisions that impact their professional lives (Campbell 2013, p. 1).

Research often conjures a picture of academics working in isolation for years proving theories. As distinct from some traditional academic research, those involved in practitioner research participate in an ongoing testing and monitoring of improvements in their practice. They work in a collaborative way to identify issues in their organisation and develop processes for improvement (New South Wales Department of Education and Training 2010). Practitioner research also offers a reflective and systematic approach to research that positions a study setting and participants at the heart of the study. It incorporates the collective knowledge of the community and increases the likelihood that the research results will be implemented and/or applied (Kemmis and Taggart 2008).

Gillman and Swain (2006, p. 234) define practitioner research as research concerned with issues and problems that arise in professional practice. In the field of Education, research conducted by practitioners aims to bring about change, or influence policy in the practice arena, whilst also increasing knowledge about curriculum, teaching and
learning. Furthermore, practitioner research provides a framework for formulating practice knowledge and allows such knowledge to be disseminated to other professionals. Through being involved in practitioner research, practitioners become researchers into their own practice and engage in a continuing process of professional development. This research is oriented around actual education practices of teachers presenting with FASD.

Extending on Gillman and Swain (2006), Lunt, Shaw and Mitchell (2009) believe practitioner research is research conducted by an individual or group that assumes a dual role, that of both practitioner and participant observer. This involves observing and interacting with the subject of interest while actively participating in the setting as well as getting very close to research participants and gaining an intimate knowledge of their practices through intensive immersion in the field of study.

This research employs an overt participant observation method which is explained by Macionis and Plummer (2012) as when researchers openly indicate their true identity, and the purpose of the research, to those who are being observed. Macionis and Plummer (2012) highlight that one major disadvantage of applying the overt participant observation method is the observer effect, also known as the Hawthorne effect. The observer effect occurs when the behaviours of those under study may alter due to the presence of the researcher, potentially making this of the hardest biases to eliminate or factor into the analysis of the data.
Practitioner research is closely related to, and draws on the methodologies of the “family of action research” described by Kemmis and McTaggart (2005, p. 560). This includes participatory research; critical action research; classroom action research; action learning; and action science. As well, practitioner research draws on methods from a wider field than action research, allowing practitioners to undertake small scale research in case studies, ethnographic studies and to be eclectic in their use of methods, as suggested by Campbell, McNamara and Gilroy (2004, p. 80).

As education professionals work to improve learning, practitioner research provides a powerful tool for understanding personal classroom practice. Often educators claim to be engaging in practice based research, but this is not to be confused with reflection on practice or action learning.

This research draws on data collected through the use of practitioner research and includes qualitative data collection methods and reflective practice. Campbell and Groundwater-Smith (2010) infer that practitioners will gain knowledge from their research into practice which is not always the case when applying other forms of research. The objective of practitioner research is to improve, rather than verify, activities or tasks being examined. This research is designed to gather data which achieves this goal for one Australian community as so, a case study approach is used as the primary reporting framework.
**Case Study to Report Findings**

Merriam proposes that ‘case studies are differentiated from other types of qualitative research in that they are intensive descriptions and analyses of a single unit or bonded systems such as an individual, program, event, group or community’ (2009, p. 19). Case studies are frequently utilized in the field of education in order to gain an in-depth understanding of a specific situation and to identify the meaning for those involved in the situation. Yin defines a case study as ‘an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident’ (2013, p. 18). Additionally, Merriam describes a qualitative case study as ‘an intensive, holistic description and analysis of a single instance, phenomenon, or social unit’ (2009, p. 21). Within this research project, case study design provides a way of articulating the approach to the research through and with respect for an Indigenous lens. The case study design allows for aligning Indigenous ways of relationality, whilst at the same time providing a holistic overview of the investigation.

Merriam suggests further that case studies are differentiated from other types of qualitative research in that they are intensive descriptions and analyses of a single unit or bounded system such as an individual, program, event, group, intervention, or community (2009, p. 19). Extending on this, Patton (2014) describes the case study approach in qualitative research as a specific way of collecting, organising, and analysing data or process, and the result of the analysis process is the product. In addition, Merriam (2009) suggests that insights gathered from case studies often directly influence policy, practice, and future research. Influencing policy and practice is a
critical goal for this research and the knowledge it seeks to develop, therefore the case study approach is further validated in this study, as it allows for the rich and complex details of the people and their experiences to come through and so speak to policy makers.

Scholars have argued the advantages and disadvantages of various research methods, including those of a case study. Baxter, Hughes and Tight suggest that there are several disadvantages of a case study methodology, including how ‘the complexity of a case study can make analysis difficult as the researcher is aware of the connections between various event, variables and outcomes’ (2010, p. 74). Additionally, they indicate that throughout the data collection process of a case study, the researcher gathers large amounts of information to organise and analyse and must ensure that these data are carefully analysed, in order for the researcher to ensure relevance and validity. Baxter, Hughes and Tight suggest that the data should be seen by the researcher ‘in terms of the Russian Doll metaphor, where each piece of data rests inside another, separate but related ensuring the connections but not losing sight of the whole’ (2010, p. 74).

Bearing this in mind, the data collection procedures adopted throughout this research include careful monitoring and organising the data collected, according to a set of criteria to ensure the research project is viable and valid. In this way, the case study is both the framework for collecting data at the single site that is central in the research, and it also a key tool for reporting the research findings. On a practical level, this means not only writing down information gathered from the interviews and
observations as soon after the event as possible, but also ensuring a researcher’s journal is used to make valuable notes on symbolic clues such as stance, body language, tone of voice and facial expressions which are also important in determining the meaning of what people say and do. Noting these at the time of the recording the interview also aids its interpretation (Kohlbacher 2006).

In highlighting his opinion in relation to the case study research design, Yin believes that case studies are often accused of lack of rigour and that, ‘too many times, the case study investigator has been sloppy, and has allowed equivocal evidence or biased views to influence the direction of the findings and conclusions’ (2013, p. 21). Secondly, Yin considers that case studies provide very little basis for scientific generalisation since they use a small number of subjects, some conducted with only one subject. This research has many participants who contribute to the data gathering process, but is appropriate to be considered a case study, as it involves a deep and rich analysis of the practices and experiences at only one site. This allows for a holistic case study of an educational setting in which FASD is acknowledged and catered for within the school and community setting. Yin suggests that that the question commonly raised is, ‘How can you generalise from a single case?’ (2013, p. 21). Thirdly, Yin supports Baxter, Hughes and Tight (2010), once again suggesting that case studies are often labelled as being too long, difficult to conduct and producing a massive amount of documentation. Hence they assert the importance of managing and organising data in a systematic way.
This critique of the case study calls into question the validity of the approach to frame and report research. However, in this research, it is imperative that a deep and rich inquiry is undertaken, that participants, their circumstances and experience over time are recorded and the personalised experience of teachers is recorded and tested. It is the nature of the research questions which demands a deep and focussed approach to the methodology, and case study is a highly appropriate framework for this study. In addition, the importance in research with Aboriginal people of relationality and trust as a basis for sharing knowledge, provides a further validation for a case study approach.

When explaining the significance of using a case study methodology, Merriam (2009, p. 10) describes the approach as one which ‘concentrates on a single phenomenon or entity, an approach which aims to uncover the interaction of significant factors characteristic of the phenomenon’. The use of a case study using qualitative methods of data collection allows the researcher to study selected issues in depth, openness and in detail. The researcher, according to Merriam (2009), is the primary instrument for gathering and analysing data, and as such, can respond to the situation by maximising the opportunities for collecting and producing meaningful information.

Typically, in case study research, strategies for data collection include interviewing, observation and document analysis (Merriam 2009). The use of differing data sources supports the researcher to ‘validate and crosscheck findings’ (Patton 2014, p. 244). Within the case study in this research, different types of qualitative data are collected from interviews with participant classroom teachers, classroom observations, student
work samples, parent and caregiver Yarning Circles, public documents and the researcher’s field notes. Coffey and Atkinson (1996) suggests that data collection and analysis are best conducted simultaneously in qualitative research to allow for necessary flexibility. Miles and Huberman (1994), along with Corbin and Strauss (2014), propose that data collection and analysis occur in a cyclical process, until concepts and themes become detailed and redundant and new information ceases to emerge. Denzin and Lincoln (2005) and Merriam (2009) highlight that qualitative methodology lends itself to multiple meanings and interpretations which researchers need to consider when interpreting their data. Putt (2013) further reminds that the focus of inquiry in qualitative research is the use of participants’ voices which once again supports an Indigenous approach to research. Foremost, it is the voice of the participants that enables the researcher to study the phenomenon of interest.

Choosing a Case Study Approach

This study employs qualitative research methods which Patton (2014) describes as a system of inquiry that seeks to build a holistic, largely narrative description to inform understanding of a social or cultural phenomenon, whilst also allowing for flexibility within the research process. In supporting Patton, Stake adds another dimension describing a case study as ‘not a methodological choice, but instead a choice of what is to be studied’ (2005, p. 443). Within this research, the case study refers to the research site and the holistic approach taken to reporting the qualitative research as well as the form for reporting the research findings. Additionally, Stake considers that a qualitative approach is warranted when the nature of the research question requires deep exploration over time.
For the purpose of this research and in accordance with Campbell (2013), a case study approach is chosen to accommodate the complexity of the community and classroom situation, as it actively engages the changing dynamics of the classroom and its social settings. In undertaking a case study, this research aims to illuminate education policy and enhance education practice for education professionals working with students on the FASD spectrum. In this context and given the desire to work respectfully with the Aboriginal as well as non-Aboriginal members of the school community, a qualitative approach is appropriate for this study as it fosters an enhanced understanding of the lived experiences of the participants, the education professionals, and their own understandings of how they prepare, navigate and work with students on the FASD spectrum.

The complexity of working in a largely Aboriginal context, further strengthens the need for the research method, to enable a rich and authentic data collection process and interpretation which can be achieved through qualitative processes. Through the use of qualitative methods, this study provides participants with the opportunity to articulate and express the ways they adapt, learn from and collaborate with others to improve their teaching pedagogies, classroom practices and whole school operations in order to support and work with students on the FASD continuum. Finally, qualitative methods enable participants in the parent/caregiver group to share their knowledge in a culturally safe and sensitive manner. The use of rich, critical description provides in-depth, detailed accounts of the participants’ experiences to form a valuable and unique case
study highlighting the data collected. This chapter, therefore, acts as a guide or framework within which changes may occur as the research process progresses.

The Research Paradigm: A Constructivist Approach

To find a research paradigm which is true to, and respectful of, both the western academic and Indigenous knowledge, it is critical to be considerate of the research questions and, more importantly, respectful of the participants, both Aboriginal and non-Aboriginal, and the wider community of the research site.

The ideas expressed by Tuhiwai Smith (2012) identify the need for a modern Indigenous peoples’ research project that resists the oppression found within research. Garroutte (2003) argues for an approach to research that stems from Indigenous peoples’ roots and principles. Within this research project, it is important to ensure that an Indigenous research paradigm is included, to act as the foundation for the research design. The concept of research paradigm that fits best with this complexity in this research is provided by Cree scholar, Shawn Wilson. He states that a paradigm is

A set of beliefs about the world and about gaining knowledge that goes together to guide people’s actions as to how they are going to go about doing their research. (2001, p. 175)
Wilson focuses on four aspects that combine to make up a research paradigm:

Ontology or a belief in the nature of reality. Your way of being, what you believe is real in the world. Second is epistemology, which is how you think about that reality. Next, when we talk about research methodology, we are talking about how you are going to use your way of thinking (your epistemology) to gain more knowledge about your reality. Finally, a paradigm includes axiology, which is a set of morals or a set of ethics. (2001, p. 175)

It is important in Indigenous research, and so in this project, that the research contributes something beneficial to the improvement of both the education of young people with FASD and the research site since beneficence is at the heart of the axiology of an Indigenous research paradigm. Research in this instance is concerned with constructing effective partnerships with Elders, community members, community leaders and educational workers to ensure the new knowledge can bring about positive change in a culturally responsive approach.

Within this particular study, a combination of a constructivist and interpretive paradigms is adopted, as this research project focuses on the knowledge and practices of education professionals required to ensure that students on the FASD spectrum achieve optimal learning and support within their educational environment. According to Merriam (2002), learning how individuals experience and interact with their social
world, including understanding the meaning this knowledge has for them, is best documented and reported using an interpretive qualitative approach. Importantly, Merriam notes that there are several key characteristics in all interpretive qualitative research designs (2002, p. 5). The first characteristic is that researchers strive to understand the meaning people have constructed about their world and their experiences. Secondly, the researcher is the primary instrument for data collection and data analysis. The results of this process are that the researcher generates or constructs conclusions through interpretation of what they have found through their personal interaction with the research data and setting.

Kawulich (2005) claims that the researcher has to interact with the participants to get to know the particular social setting, share in the feelings and interpretations of the people being studied and see things through their eyes. Constructivist and interpretive approaches subscribe to the notion that all social reality is constructed, created, or modified by all the social players involved (Kawulich 2005; Creswell 2014). This is in keeping with the importance that Indigenous communities place on relationality. As well, Creswell indicates that when adopting this research approach, the researcher tends to rely upon the participants’ views of the phenomena being studied and recognises the impact in the research of their own background and experiences (2014, p. 37). Creswell (2014, p. 38) contends that constructivists generally do not begin with a theory, rather they generate or develop a theory throughout the research process.
Critically, Mertens (2005) suggests that, who we are and how we understand the world, are a central part of how we understand ourselves, others and the world. Adding to this, Stake argues that of all the roles that researchers play, the role of gatherer and interpreter is central, as ‘most contemporary qualitative researchers nourish the belief that knowledge is constructed rather than discovered. The worlds we know are all a particularly human construction’ (1995, p. 99). Stake further defines constructivism as a belief that knowledge is made up largely of social interpretations rather than awareness of an external reality. The interpretive tradition asserts that researchers should begin by examining the context to be studied through action and inquiry, as opposed to predisposed assumptions.

Basic interpretive study exemplifies the assumption that the researcher is interested in understanding how participants make meaning of a situation or phenomenon. In this research, this approach is used to report the experiences of participants through the researcher and the researcher’s observations. Hence, voice is given to the participants whose stories are told through the yarning. This meaning is mediated through the researcher, as an instrument. The strategy is inductive, and the outcome is descriptive (Merriam 2002). Generally, rather than begin with theory or preconceived notions of the way the world works, researchers should begin by immersing themselves in the world inhabited by those they wish to study (Esterberg 2002). Thus, it is important to consider Stake’s argument that ‘most contemporary qualitative researchers nourish the belief that knowledge is constructed rather than discovered. The world we know is a particularly human construction’ (1995, p. 99). In this research, an interpretive
approach allows the researcher to interpret and encapsulate key information from participants’ responses.

Constructivist researchers focus on understanding and reconstructing the meaning that individuals hold about the phenomenon being studied (Jones 2002; Gubrium and Holstein 1997) by examining in depth their lived experiences (Jones, Torres and Arminio 2006) through the use of open ended questions (Crotty 1998). Maxwell’s rubber band analogy explains the connections and interactions clearly:

This rubber band metaphor portrays a qualitative design as something with considerable flexibility, but in which there are constraints imposed by the different parts on one another, constraints which, if violated, make the design ineffective. (2005, p. 6)

Methodologies used within this paradigm include a strong focus on qualitative methods such as semi-structured interviews, journals, observations and document analysis. Usher explains that gathering knowledge is concerned not with generalisations, predictions and control, but with interpretation, meaning and illumination (Usher 1996, p. 18). In addition, the focus of the research is on the meaning that people attach to their lives and experiences. This is critical for this study, especially with respect to the importance of Aboriginal ways of knowing and doing. The constructivist paradigm complements and respects Aboriginal knowledge systems and research protocols well.
Merriam (2002) sums it up by saying that, the product of a qualitative inquiry is richly
descriptive, words and pictures rather than numbers are used to convey what the
researcher has learned about a phenomenon. As a result, the approach applied here is
labelled an Indigenist constructivist qualitative paradigm (Denzin and Lincoln 2008) to
enable the various strengths and commitments of qualitative, practitioner focused,
giving voice to teachers’, families’ and students’ experiences and respecting Indigenous
knowledge and culture.

The Research Framework

Scholarly conversations in relation to educational research often make reference to the
qualitative versus quantitative research debate for effective research. Scott (2007)
suggests that qualitative and quantitative approaches have differing epistemic and
ontological bases. These epistemic positions become fundamental for the decisions that
scholars make in choosing the most appropriate methods and strategies they adopt for
their investigation.

Caine and Caine believe that society is not adequately benefiting from the emerging
trends in educational practice because ‘process can neither be understood nor measured
with rational or experimental research models’ (1994, p. 21). They elaborate that, ‘we
urgently need more qualitative measures in education’ (Caine and Caine 1994, p. 22).
Babbie (2013) agrees with this proposed need and states that, through observations a
breadth and depth of understanding about human experience are gained. There are
research questions where breadth and depth of educational practices within the
classroom setting cannot be appropriately represented through quantitative data alone. This research looks at not only the public data about the research site and its context, but seeks to understand the personal lived experience of those currently working alongside students and their families impacted by prenatal exposure through qualitative approaches such as classroom observations, Yarning Circles and semi-structured interviews. These qualitative approaches allow for the discovery of new insights into the academic supports and approaches required for students with FASD in Australian schools.

Anderson and Arsenault believe that studying and interpreting human experiences in authentic settings cannot be suitably represented quantitatively and state, ‘qualitative research is a form of inquiry that explores phenomena in their natural settings and uses multi-methods to interpret, understand, explain and bring meaning to them’ (2002, p. 119). Some topics, such as the present one, do not lend themselves to randomised, controlled trials that can provide probabilistic evidence on a narrow, quantifiable basis in a controlled environment. Furthermore, an involved research approach involving qualitative research, respectful of Aboriginal traditional knowledge, culture, world view and community involvement along with control is recommended as the preferred methodology in doing research with Aboriginal Peoples (National Health and Medical Research Council 2014).

This recommendation overlaps with that of Odom et al. (2005) who recommend that researchers use a variety of research methodologies including qualitative, group design,
quasi-experimental and single subject, to ascertain evidence-based practices that are effective with students who have additional needs. According to Miles and Huberman (1994), one of the uses of qualitative research is to investigate the phenomena of which very little is known. Since little is known about the knowledge required to ensure that Australian students on the FASD continuum are provided with inclusive optimal learning opportunities, a qualitative case study design was utilised. Qualitative research can be described as an inquiry process based on the understanding of a social or human problem that attempts to build a complex, holistic picture, using words and reporting detailed views of informants, while conducted in a naturalistic setting (Creswell 2014). Anderson and Arsenault extend this by stating that studying and interpreting human experiences in authentic settings cannot be suitably represented quantitatively and that ‘qualitative research is a form of inquiry that explores phenomena in their natural settings and uses multi-methods to interpret, understand, explain and bring meaning to them’ (2002, p. 119). This research observes and reports the practices of teachers and learners in their daily classroom experience.

As discussed earlier and drawing on Denzin and Lincoln (2005, p. 4) who liken qualitative research to a quilt maker as they stitch, edit and place pieces of reality together, the pieces of the quilt for this research are the contributions of local knowledge, parent and caregivers of students with FASD and the educational team working together to ensure the educational needs of these students are being met. This approach is supported by Denzin and Lincoln who argue that qualitative research is a system of inquiry which seeks to build a holistic, largely narrative, description to inform the researcher’s understanding of a social or cultural phenomenon. They claim that
qualitative research takes place in natural settings employing a combination of data
generated from oral discussions, observations or documentations with a goal of
exploring the behaviour, processes of interactions and the meanings which intertwines
with an Indigenous paradigm. Critically, the methodology utilises multiple data
collection strategies to capture various perspectives on the learning experiences whilst
providing opportunities for participant voices to be documented.

The Research Site

Within Australia the prevalence rates of FASD are increasing as Australian diagnostic
tools are being adopted and implemented and medical teams are beginning to recognise
and diagnose FASD. Without appropriate knowledge and understanding, FASD has the
potential to become a phenomenon that may have an extremely detrimental effect on
future Australian populations. Within Australia there are regions and communities that
are proactively addressing FASD in their health programs, community projects and
educational settings to ensure that community members and the wider public are aware
that FASD is a real concern and that it is preventable. These regions and communities
have taken actions based on their knowledge and understanding that to “make FASD
history” within Australia, communities, professionals and governments need to work
together to inform, make public and acknowledge FASD, firstly as a public issue, but
also as a lifelong preventable disability. Additionally, O’Leary (2004) believes that
although numerous studies indicate an elevated incidence of FASD among Australian
Aboriginal populations, these figures maybe inflated due to systematic sampling bias
and associated socio-economic stressors (O’Leary 2004). Bearing this in mind, there is
no incidence or prevalence rate known for the general population for comparative
purposes. The National Indigenous Drug and Alcohol Committee (2012) states that FASD can occur in any community where alcohol is consumed.

In order to ensure this research project is authentic, the researcher examined Australian educational populations that determined FASD as a growing concern requiring responsiveness within the educational arena. It was essential to locate an educational setting in which the educational team were working to transfer theory and research into school based practice to provide optimum learning for students presenting with FASD whilst also meeting the state and federal governments’ education and curriculum outcomes and guidelines. Patton states that it is important to select ‘information rich cases from which one can learn a great deal about the issue of central importance for the purpose of the research’ (2014, p. 53).

Within this framework it is apparent that there are several Australian educators who are identifying an increase in the numbers of their students presenting with FASD traits, although many of these students are still awaiting diagnosis. An educational setting with a commitment to engage at a school level to support and encourage collegiality of all members of the educational team to meet the needs of students presenting with FASD, was sought for this research.

Within this study there were a number of criteria that are applied to the selection of both the site and participants. Firstly, it was important to locate an educational setting that
acknowledged FASD as an educational concern. Secondly, it was important that the school community be willing to engage in the research project and have their professional practice observed and recorded. Thirdly, it was essential that the participants represent a range of perspectives regarding the research question in order to produce thick description. Geertz (1973) describes thick description as not only the phenomena that is observed, but the context as well. Within this research, thick description allows the data to capture not only educational workers’ strategies, but the classroom layouts, student movement, teacher movement and lesson structures in context. Furthermore, thick description allows the peeling back of layers of parent and caregiver contributions. The parents hold insider knowledge based on their roles living with FASD continuously on a 24 hour a day, 7 days a week basis and that their knowledge and experiences can illuminate the researchers understanding within this inquiry. Additionally, the environmental context of this research is essential as it constitutes the observation section of the data collection.

The educational setting describes itself as an inclusive setting where some students are identified as having FASD. In considering a site for this research, the researcher’s informal networks also indicated that the teachers considered that FASD influenced the educational experience of many students. The site location is also training all members of the educational team in aspects of FASD, such as recognising developmental characteristics, behavioural characteristics, learning styles and FASD as a brain injury. Educators and community members are also familiar with pedagogical practices currently used in international educational settings that are supporting FASD students to experience success within the educational arena. Carpenter (2011) states that there is a
challenge for educational workers in knowing how to teach students presenting with FASD, as their unusual style of learning and their extremely challenging behaviours are contrary to expected modes of learning.

The site chosen has a high population of Aboriginal students with strong culture and cultural lore. The site is one with a story of colonisation, disempowerment and trauma. It is community in which distinct knowledge nations are defined through unique languages, symbols and spirituality. As already mentioned, the use of the term “Aboriginal” rather than “Indigenous” is applied throughout this research. The terminology used is an important consideration as it signifies meaning and boundaries. The term 'Aboriginal' signifies the specific cultural boundaries of the community. Aboriginal people are a significant population of this research, and being Aboriginal, the researcher can relate to, and has a position to speak from, aspects of Aboriginal lived experiences. The research site allowed the researcher to connect the research to Aboriginal methodologies of Ways of Knowing, Ways of Being and Ways of Doing (Martin 2003), whilst also having a deeper understanding of the lived experiences of the participants, the educational professionals, and their own understandings of how they prepare, navigate and work with students on the FASD spectrum.

The current enrolment of students within this school stands at approximately 300 students with 23 teaching staff, 11 school support staff and 4 administration staff. The school is one of more than 500 Stronger Smarter Schools across Australia (Stronger Smarter Institute n.d) and colleagues value how they work together with their
community and continuously reflect their own individual behaviours, practices and perspectives within the educational arena. The site and participants in this study were selected using purposeful sampling. According to Ezzy, a purposeful sample is one that provides a clear criterion or rationale for the selection of participants, places to observe or events that relate to the research question (2003, p. 74). Within this study there were a number of criteria that are applied to the selection of both the site and participants.

**Cultural Protocols and Ethics**

From the literature reviewed (Carpenter, Blackburn and Egerton 2014; Blackburn, Carpenter and Egerton 2012; Crawford 2008; Malbin 2002), it is apparent that there is a pressing need to investigate what knowledge, skills and strategies are required for Australian education staff to successfully support students within their classrooms presenting with FASD. The literature indicates that there are several educational professionals acknowledging FASD within their classrooms and their need to self-educate to ensure they were able to provide an educational environment that was inclusive and supported these students to experience success within the classroom. This literature and knowledge led to a research site in a community with a high population of Aboriginal peoples.

Ethics clearance in research is a necessity to ensure the researcher can make ethical decisions based on procedures, policies and guidelines set by the research institution. Research institutions are required to monitor the ethical conduct of their researchers as a measure of self-protection and is in most cases built into the academic research process.
As Mertens comments, ‘Ethics in research should be an integral part of the research planning and implementation process, not viewed as an afterthought or a burden’ (2005, p. 53). Within research it is important that no information regarding another individual should be written about, recorded or printed without their permission and consent and ensuring that the community’s identity is protected. In addition, ethics in research should be regarded with vigilance. It is essential that consent is sought from all participants and that each participant is reminded of their ability to withdraw from the research at any time. Adding to this, the researcher in their capacity as summariser of the information collected should report and record everything with honesty and with integrity.

Prior to formally commencing this research project, a number of conversations with Elders, Aboriginal community members, Indigenous scholars and academics were conducted in order to ensure that sound understanding of Aboriginal ways of knowing and being, along with Western academic and Indigenous ethical practices of this research were able to marry together to complement the research project.

Preceding ethics approval, it was essential to conduct a pre-ethics visit to ensure the research site was indeed one that acknowledged FASD within their school community. As well, prior to travelling to the intended research site, it was important to make contact via phone and email to Community Elders and Traditional Landowners to notify them of the intended visit, the reason for the visit and to follow cultural protocol when visiting another’s Country. As an Aboriginal researcher entering another’s community
it was important within this contact that I geographically located myself, my heritage and to demonstrate an understanding that each of our communities are unique so guidance of local traditional protocols was required.

On arrival at the research location, a meeting was held with the school Principal to discuss the intentions of the research, details of how the research would be conducted and the contribution of the school and school community. This meeting subsequently resulted in the opportunity to present the research project outline to the full school council which was an important phase of the research as it informed all members of the school community and gave the school council members an opportunity to ask questions or give feedback. This also allowed for the community and school to make an informed decision as to whether or not they wanted to decline participation or contribute to the research.

Once the School Council had acknowledged that members would be willing to participate in the research project and after it was formerly approved by the ethical committees involved, it was essential to meet with local Traditional Landowners to discuss the research proposal, make local connections and to gain the pre-approval for the research to be conducted within the community. It was at this time that a connection was made with Elders and respected members of the community who offered to support the research and officially welcomed me to Country.
This research project was subject to rigorous ethical and procedural guidelines and approval for undertaking this research was provided by the Deakin Human Research Ethics Committee through the National Ethics Application Form and by the relevant educational authority with which the research site was located. The two authorities approving the ethics of this research project outlined that specific ethical considerations were addressed before working with Aboriginal Peoples. These considerations included having clearly stated research aims, projected outcomes and priorities of the research project, a clear and concise plain language statement for all participants outlining the research aims, data collection methods, time commitments and consent and withdrawal forms. Additionally, a letter from a Traditional Landowner of the research site community was also required to confirm that the researcher was welcomed into the community to conduct the outlined research and that the community was welcoming of both the research and research topic. Additionally, within the approved ethics document it was stated that this research project was to be conducted according to the 14 principles that appear in the Guidelines for Ethical Research in Australian Indigenous Studies (Australian Institute of Aboriginal and Torres Strait Islander Studies, 2012) as they relate to cultural property rights, knowledge, ideas and materials. Indigenous ethics include knowing that the researcher’s behaviour and perspective is nested within Indigenous peoples’ own being, values and understandings of place and spiritual reality in which limiting risk and enhancing benefits for Aboriginal lives is relevant.

As with any research involving people, it is important that all participants were fully informed in relation to the research, the aims of the research and what was required of
them if they decided to participate in the research process. All participants were required to sign a consent form prior to engaging with the research.

Data Collection Techniques

The core approach to data collected throughout this case study is that of practitioner research using qualitative methods and Indigenous knowledge systems. In presenting the data as a case study, Stake highlights that the data collection methods should enable the research to ‘encapsulate complex meanings into a finite report and to describe the case in sufficient narrative so that readers can experience these happenings vicariously and draw their own conclusions’ (2005, p. 444).

Within a constructivist and qualitative approach, the researcher works inductively. According to Terre Blanche, Durrheim and Painter, inductive themes imply ‘immersion in the details and specifics of the data to discover important categories, dimensions and interrelationships which begins by exploring genuinely open questions rather than testing theoretically derived hypothesis’ (2006, p. 43). In an Indigenist constructivist qualitative paradigm of research, researchers are primarily concerned with the process rather than outcome. This type of research process is more descriptive to adequately represent meaning and the understanding of data. This research is designed to deliver both respectful processes and trustworthy outcomes.
The production of data includes the techniques used to gather evidence in the study. In this case study, three main techniques are used to respond to the research question, interviews, observations and documents. This case study draws on all three major sources as described by Merriam (2002) to investigate teaching strategies for students presenting with FASD in Australian classrooms.

**Data Collection Methods for This Research**

To deliver on the aim of this project and explore the classroom pedagogy and strategies employed by educational professionals to support students presenting with FASD, the researcher invited a variety of educational professionals, parents and caregivers to share their knowledge and understanding of what works best for children and young people with FASD. The data collected to inform this research are collected throughout one academic year, with 17 classroom teachers and 8 parent/caregivers contributing to the data collection.

**Public Documents**

Public documents are those that already exist and are freely available. Within this research public documents are accessed in relation to current community demographics, current school enrolments, the school’s annual reviews and charter. The data gathered from such documents enhance the background, context and depth of the research. As Merriam (2002, p. 13) suggests, ‘the strength of public documents as a data source lies with the fact that they already exist, they do not intrude or alter the setting in ways the presence of an investigator might’. Any school documents and the school website

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accessed throughout this project remain undisclosed to protect the identity of the school and families.

**Interviews**

Interviewing is a form of qualitative data collection which involves asking questions and getting answers, through which people try to understand fellow human beings. Patton points out that the ‘quality of information obtained throughout an interview is largely dependent on the interviewer’ (2014, p. 341). As these data hold informative and essential information for this study, the interviewing process was carefully researched prior to being implemented.

Fontana and Frey (2000) suggest that the most common form of interviewing is the individual, personal, face-to-face verbal interchange. There are several formats an interview can take which include structured, semi-structured or unstructured. Within the structured interview, the interviewer asks each respondent the same series of questions, which the interviewer then records and encodes. Open ended questions are rarely used in structured interviews and all participants are asked the same set of questions in the same sequence and the researcher is often seen as being neutral (Fontana and Frey 2000). In comparison, unstructured interviewing, particularly open-ended in-depth or semi-structured interviewing, can provide a greater breadth of data than other types (Fontana and Frey 2000) and attempts to understand rather than categorise as in structured interviews. Generally, in semi-structured interviews the
interviewer is not limited to the series of questions but uses them as a series of focus questions.

In support of Fontana and Frey (2000), Kvale (1996) describes interviews as conversations and indicates three types of uses; everyday interactions, professional interchange and philosophical dialogue. Although Kvale suggests that a research interview falls into the category of professional interchange, philosophical dialogues promote conversation and the co-construction of knowledge. Kvale suggests using a semi-structured interview conducted around guiding questions that focus on particular themes. Guiding questions can be developed as starting points to generate follow-up, probing and interpreting questions (Petrie 2005; Kvale 1996). These questions may reflect the themes or sub-plots of the research. Within this research, knowing that the research site was undertaking a deliberate approach to FASD as it understood each learner was unique, it was essential that the interviews allowed for professional dialogue, professional interchange and co-construction of knowledge. Further, in the context of practitioners enquiring about their own practice, it is this professional dialogue that contributes to extending Australian education professionals’ knowledge in regards to supporting students with FASD in their educational journey.

Fortana and Frey (2000), along with Kvale (1996), advise that when undertaking interviews in qualitative research, there are traditionally three ethical concerns in which the researcher needs to acknowledge; informed consent, right to privacy and protection from harm. Firstly, informed consent is fully informing participants about the purpose
of the investigation, its design and the potential risks and benefits from participation. This includes receiving voluntary consent to use material from a participant after they have been informed truthfully regarding the nature of the research. Informed consent can be withdrawn by the participant at any time, a right to which they are informed from the beginning.

Secondly, the right to privacy or confidentiality is designed to protect the identity of the participant, so that they remain undisclosed in the research report or ongoing presentations. This is achieved by changing the names of participants, institutions and locations, or by encoding these data. If they may be identifiable, participants need to agree about the level to which they are identified, in writing (Kvale 1996).

Finally, protection from harm or beneficence includes preventing any physical, emotional or other kind of harm. Kvale (1996) suggests that the personal nature of the interview may lead some participants to disclose information they may later regret and that researchers need to be sensitive to the depths to which they probe. Throughout the entirety of this research the participants’ contributions were confidentially protected through the use of pseudonyms and codes created by the researcher.

**Semi-Structured Interviews**

In this research project, interviews play a major role in gaining an in-depth understanding of participants’ perceptions of changes in their teaching instructional and reflective practices when working with students on the FASD spectrum. Seidam states:
If a researcher’s goal is to understand the meaning people involved in education make of their experience, then interviewing provides a necessary, if not always completely sufficient, avenue of inquiry. (2013, p. 4)

Semistructured interviews and informal conversation interviews are used throughout this research as a method of collecting information from participants in a conversational and informal manner. The use of informal conversation interviews is primarily used when first meeting participants. It is used as the main method of building rapport with participants. Patton suggests that:

The strength of the informal conversation approach to interviewing is that it allows the interviewer to be highly responsive to individual differences …questions can be individualised to establish in depth communication with the person being interviews and to make use of the immediate surroundings and situation to increase the concreteness and immediacy of the interview questions and responses. (2014, p. 110)

When discussing semi-structured interviews, Gillham comments that semi-structured interviews are the most important form of interviewing in case study research (2000, p. 65). Furthermore, Gillham (2000) explains that the flexibility, the pace and naturalness
all contribute to the semi-structured interview being a productive and valuable research tool.

Within the semi-structured interviews, a set of prepared questions act as a guide for the researcher. Whilst the researcher works to ensure that certain key questions are asked of every person interviewed, the semi-structured interview format allows for and encourages the researcher to interject with additional questions where appropriate, although, the flow of the interview is primarily driven by the participant. Within this research, semi-structured interviews contained a range of predetermined questions in relation to current classroom practices, current knowledge, participant’s histories and classroom environments but will also allow for flexibility as to the format in which the participants approach the questions. These types of interviews allow for open responses from participants whilst also giving the participants the opportunity to respond in their own words reflecting on their personal experiences rather than a simple yes or no response. Through using this technique of interviewing, rich, detailed and comprehensive information in relation to the participants’ ideas and knowledge on the researched topic is gathered.

Seventeen classroom teachers participated in twenty-seven semi-structured interviews, each lasting a maximum of one hour. These interviews, using open ended questions, are designed to solicit information pertaining to classroom aides, professional development, teaching experience and teachers’ classroom practice. The use of open ended questions supports the focus of this inquiry whilst also enabling the participants to elaborate on
their teaching strategies and their own thoughts and ideas in relation to best practice when presented with children and young people with FASD. The interviews are also an opportunity to learn about the difficulties, the achievements and the successes whilst also giving a voice to the educators who are currently at the forefront of creating new knowledge in this area.

The semi-structured interviews undertaken with education staff were framed around the following questions and themes, whilst allowing for the complexities of the participants’ individual perceptions and experiences:

- Tell me about yourself.
- At the commencement of each school year, staff participate in Fetal Alcohol Spectrum Disorders Professional Learning. Can you tell me about the professional learning?
- Describe the resources you use within your classroom to support those students presenting with FASD.
- How do you ensure that the learning needs of all students are being met?

**Focus Groups through Yarning Circles**

This research brings together the western methodological tool of focus groups and applies it through the culturally appropriate practice of Yarning Circles. Focus groups are a form of group interview with the aim of capturing the interaction between the participants based on topics that are supplied by the researcher (Morgan 1998). The Yarning Circle model forms the basis for the focus group structure in this research and
is undertaken to maintain cultural appropriateness and to draw upon participants’ attitudes, feelings, beliefs, experiences and reactions in a way in which would not be possible through other methods such as formal interviews, questionnaires and surveys to collect and generate data. Powell, Single and Lloyd (1996) define a focus group as a group of individuals participating in research to discuss and comment on, from their personal experience, the topic that is the subject of the research. Within this research project, the contributors in the Yarning Circles are the parents and caregivers of the school community.

Yarning Circles are used not only to collect data to inform this research, but to establish relationships with the Aboriginal participants contributing to the research. When discussing Yarning as a method of data collection, Kvale (1996, p. 269) describes the researcher as a traveller who is embarking on a journey visiting the lived experiences of the participants to find out about their life world.

Informal focus groups usually consist of six to eight people and the group are encouraged to talk to one another, ask questions, exchange ideas and anecdotes whilst commenting on each other’s experiences and points of view. This type of exchange allows insight into what people think and why, whilst the researcher is also reflecting and gaining information on participants’ experiences and thoughts. Bessarab and Ng’andu (2010) describes Yarning in research as an informal semi-structured interview with a relaxed discussion through which both the researcher and participants journey together discussing topics of interest relevant to the research study. Furthermore,
Bessarab and Ng’andu highlight that Yarning is a process that requires the researcher to develop and build a relationship that is accountable to Indigenous people contributing to the research. Within the community that this research project is conducted, the term *Yarn* or *Yarning* is used when a person wants to talk with someone, or as a process of making meaning, communicating and passing on history and knowledge. It is a special way of relating and connecting with the local culture and keeping that culture alive.

Within the informal focus groups or Yarning Circles, the researcher’s role is to ensure the group stays on topic in a non-directive way allowing the group to explore the subject from as many angles as they want. Seidam (2013) states that focus groups are successful when the topic is common, people feel relaxed and acknowledged and when conducted in a common non-threatening place. The Yarning Circles were conducted in a culturally safe place of the participants’ choice. Seidam explains that focus groups are non-discriminatory to people who may not be able to read or write but who have a wealth of information to share, whilst also having the ability to encourage participants that are otherwise reluctant to participate in interviews or those whom find filling out forms and questionnaires tedious.

Yarning Circles are an Aboriginal conversational exchange and process that involve the sharing of stories and information that prioritise culturally safe, cooperative and respectful communication (Bessarab and Ng’andu 2010). Bessarab (2012), an Aboriginal Elder, explains Aboriginal peoples’ conversations often take the form of a story when replying to a question. Yarning has its own conventions and style as a type
of conversation and can at times become messy and meandering, weaving in and out of the research story. Additionally, Bessarab strongly suggests that researchers must understand that Yarning has protocols in relation to the participants, especially Elders. The Yarning that took place within this project was a research topic Yarn. A research topic yarn has a purpose to gather data, it will be interactive, inclusive and a two-way process. It is important that researchers remember why they are there as, at times, it may appear relaxed and informal, but Yarning has a beginning, middle and end but most of all a focus (Bessarab 2012). A no blame, no shame ethos was also adopted within each of the Yarning Circles to support parents and caregivers and encourage them to openly share their lived experience to add breadth and depth to the data.

There are challenges when conducting Yarning Circles which a researcher must acknowledge before entering into a Yarn. It is important to know the purpose of the Yarn, to know how to draw the Yarn to a close, how to bring the conversation back on track in a sensitive manner, but most of all to have set boundaries in relation to respect and Elders. Due to the sensitive topic of this research, the Yarns were conducted with a “no blame, no shame” ethos which was discussed prior to each Yarn along with the researcher reaffirming contributors’ ability to withdraw their consent at any time throughout the project without impacting on their relationship with the researcher or the university. This is all explained in the Plain Language Statement which provides participants with details about the research before they consent to participating. The Yarning Circles conducted within this research are undertaken in two separate locations. Due to the geographical location, some parents and caregivers found it difficult getting
to the proposed meeting site so opted to nominate a culturally safe place where more parent/caregivers could attend.

Compared with the challenges, there are also many benefits for the participants of the Yarning Circle as they have the opportunity to be involved in the decision making process, they are acknowledged as being valued experts in their fields whilst also being given the opportunity to work collaboratively with the researcher and contribute to the research being undertaken (Race, Hotch and Parker 1994). Furthermore, Kitzinger (1995) suggests that if a focus group works well, trust develops and the group can explore solutions to a particular problem as a group rather than individually.

Throughout the Yarning Circles, open ended probing questions are asked to guide the conversation and allow the parents and caregivers an opportunity to contribute data in relation to their children’s educational journey and their connection with the school. In this research, the Yarning Circles provide a place to reflect on the importance of the parent and caregivers voice in ensuring that they are involved and can have a positive impact on their children’s education. Furthermore, parents and caregivers hold the knowledge about their child: they know their behaviours, their likes and dislikes and their behaviours. Their role is important in supporting educational staff to ensure that both their children and the classroom teachers have a safe, engaging and supportive learning environment.
**Diary Writing and Journal Writing**

These terms can be used synonymously, however, within this study, the researcher has chosen to delineate the terms in the following way. Diary writing relates specifically to the writing within the research project which includes the chronological writing up of observation sessions, the researcher’s impressions, understandings and reflections. The journal writing on the other hand, is undertaken over a much greater span of time and chronicles the events occurring within the study environment, the relationships formed with participants, students and others within the community and is used to inform the case study background. According to Noffke and Stevenson journals are ‘useful for keeping records of procedures, discoveries, problems and questions’ (1995, p. 125). The journal is a means of allowing the research to be both reflective and flexible.

During the data collection process, two journals evolve. One is a research journal and includes data and information which describes the research observations and detailed descriptions of the experiences, and the other is a personal journal. The personal journal chronicles the events occurring within the study environment, the relationships formed with participants, students and others within the community and made use of these notes to inform the case study. The personal journal operates as the initial layer of analysis assisting with reflection that engenders further questions and insights.

**Classroom Observations**

Another data collection method used within this research project is participant observations. These observations are of the classroom setting of the research site.
Marshall and Rossman (2011, p. 79) define observation as ‘the systematic description of events, behaviours, and artefacts in the social setting chosen for study’. Bernard (2011) expands on this by defining participation observation as the process of establishing rapport within a community and learning to act in such a way as to blend into the community so that its members will act naturally. Additionally, deMunck and Sobo (1998) believe that participant observation is the primary method used by researchers doing fieldwork and that participant observation is the process enabling researchers to learn about the activities of the people under study in the natural setting through observing and participating in those activities.

Patton outlined five main advantages of using observations as a data collection tool:

- direct observation allows the researcher to better understand and capture the context within which people interact,
- firsthand experience with a setting and the people within the setting allows the inquiry to be more open, discovery orientated and inductive,
- the researcher has the opportunity to see things that may routinely escape awareness among the people in the setting,
- direct observation provides a chance to learn things that people would be unwilling to talk about in an interview,
- getting close to people in a setting via firsthand experience permits the researcher to draw on personal knowledge during the formal interpretation stage of analysis (2002, p. 262).
The principles outlined by Patton are closely aligned with doing research in Aboriginal settings, as each of them articulate with the need to develop relationality and trust in order to access information pertinent to the research questions and aims. Indeed, the methodology outlined so far in this chapter articulates these principles.

In this research the collection of field notes in the research journal taken using participant observations, enabled the development of observational records of teaching practices and learning interactions between students and educational professionals. These notes, while not part of the public data set, are used to inform the thinking and responding to data in the analysis phase as a further layer of analysis.

Whilst gathering data, classroom observations were undertaken within ten teaching spaces, all varying in range from early years through to the senior years. I was introduced to the students and spent time explaining to the students, getting to know them a little and informing them of the purpose of these visits to the classroom over a number of sessions. Many of the students had previously seen me within their town, at the local supermarket and at the school on my previous pre-ethics visit. The classroom observations include:

- The strategies classroom teachers implement within their professional practice to promote successful outcomes,
- The pedagogical and curriculum adaptations employed by the classroom teachers to deliver classroom tasks to students,
The classroom environment taking into consideration the functionality and classroom design, and

• The additional factors required to successfully enhance student engagement and participation.

Whilst observing classroom practices, it was possible to take short field notes, although being cautious, however not to become too involved with note taking, as it is important that full attention is given to the learning environment and to not becoming a distraction to the students. However, as soon as possible after classroom observation, the extensive field notes were recorded and themes checked with the classroom teachers.

**Analysis of Data**

According to Kohlbacher, data analysis in qualitative research has a two-fold purpose: (a) to understand the participants’ perspectives, and (b) to answer the research question (2006, n.p). Data analysis in this constructivist qualitative paradigm is essentially an iterative and inductive strategy which compares units of data whilst looking for common patterns. Marshall and Rossman (2011) define qualitative analysis in terms of organizing and attributing meaning to the data. Merriam takes this further by highlighting the importance of the data analysis and the need for the researcher to immerse themselves in the data, listening to it, reading it, touching it, playing with it and colour coding it (2002, p. 396). Supporting Merriam (2002), Babbie also believes that:
Analysis involves breaking up the data into manageable themes, patterns, trends and relationships. The aim of the analysis is to understand the various constitutive elements of one’s data through an inspection to see if there are any patterns or trends that can be identified or isolated and to establish themes in the data. (2013, p. 108)

It is vital that all the data are put together to form a coherent whole. According to well-known grounded theory researchers, Corbin and Strauss, ‘the process of analysis and interpretation involves disciplined study, creative insight and careful attention to the purpose of evaluation’ (2014, p. 144). They continue by stating that when data collections have ended and it is time to begin the formal analysis, the evaluator has two primary sources to draw from in organising the analysis: firstly, the evaluation questions that were generated during the conceptual and design phases of the project and secondly, the analytic insights and interpretations that emerged during data collection.

Discursive material is analysed using approaches borrowed from grounded theory which includes identifying and connecting themes from the interviews and yarning groups, as well as from observational notes whilst using the themes and responses to the themes, to generate validated generalisable findings. Glaser and Strauss (1999) outline the research process as involving systematic data collection and analysis that enables the development of a theory derived directly from the research data. Observational field notes and interviews are the main sources of data collection, but Schreiber and Stern
(2001) state that other qualitative data collection methods such as journals, books, photographs and informal meetings have also been successfully integrated.

The generation of theory using this methodology is an evolutionary process that occurs as the research is being conducted. It is based on constant comparative analysis among or between groups of people or participants in the area of research (Glaser and Strauss 1999). The combination of data collected throughout this study is analysed using Glaser and Strauss constant comparative method (Corbin and Strauss 2014).

Throughout the analytic process, the constant comparative method is used to compare incident with incident and to identify similarities and differences in order to compare data against itself to allow the formation of a theory (Ezzy 2003; Duchscher and Morgan 2004; Merriam 2009). The constant comparative method involves, ‘Continually comparing one unit of data with another in order to derive conceptual elements of the theory’ Merriam (2009, p. 8).

This strategy is applied in this research to analyse the data gathered during each field work stage. Working with themes that clearly emerged from the data, these are then compared to each of the other themes that emerged from each of the research site visits. This enables the themes to be isolated and compared and contrasted to identify patterns that are repeated in each of the data gathering processes.
Validity of the Data and Data analysis: Trustworthiness, Credibility, Confirmability

Green, Camilli and Elmore (2006), explain that a carefully conducted case study benefits from having multiply sources of evidence, which ensures that the study is as robust as possible. The concept of methods refers in general to the appropriate use of techniques of data collection and analysis (Prasad 2005). In a case study, it is important to converge sources of data, also known as triangulation, as it means to ensure comprehensive results that reflect the participants’ understandings as accurately as possible. In order to ensure verification of data and data analysis, the trustworthiness of the research study must be ensured. This includes such aspects of the research process such as credibility, dependability, transferability and confirmability. Trustworthiness and dependability have taken the place of reliability and validity in quantitative research.

Triangulation is the process of cross checking theories and/or data utilising various techniques (Patton 2014). Data collected within this study, utilising the methods described here, includes classroom observations, semi structured interviews, Yarning Circles and document analysis. The process of triangulation involves utilising the constant comparative method to analyses and compare the data from these multiple sources. Additionally, in order to ensure trustworthiness of the data, member checking is used throughout the study to reduce the impact of subjective bias, whilst establishing trustworthiness (Patton 2014). Member checks can be described as the process of sharing with participants’ various components of the research study including the research questions, data and interpretations in order to reduce misinterpretation and
confirm fidelity of the researcher’s research approach to the perspectives and beliefs of
the participants (Lincoln and Guba 1985). Member checking for this study involves the
sharing of field notes with the participants in order to review to ensure correctness of
content. The participants were encouraged to comment, elaborate or suggest changes
that more accurately reflected events or observations.

The data gathered from the five key data collection approaches; semi structured
interviews, focus groups/Yarning Circles, participant observations, diary writing and
journal writing and public documents in relation to the school and its context are
analysed using constructivist and interpretative approaches with regard to Indigenous
research protocols. These interpretations of the data are correlated with the themes
identified in the literature and are connected through the conceptual framework for the
research. This approach allows for both validation and development of themes
predicted in the literature and for new themes which can be identified as relevant in this
setting and which may be applied to other educational settings, as indicators of
successful learning for FASD students and the strategies that supports this outcome,
successful learning.

This chapter presented an outline of the research design. In doing so, it has presented
the role of the researcher, the importance of connecting to Country as an Aboriginal
researcher, highlighted Indigenous Knowing, Knowledge Systems and important
cultural protocols undertaken by the researcher prior to outlining the data collection and
reporting methods which inform this research. The Indigenist constructivist qualitative
paradigm is based in applied practitioner research and includes data collection tools borrowed from participatory action research and Indigenous knowledge systems. Data are analysed using ground theory practices and presented as a case study. The following chapter reports the developments of these themes and the findings of the research.
Of all the community’s institutions, the schools are most advantageously situated to influence the lives of people with FAS[D]. If schools are responsive to the challenges presented by these students, the students’ lives can be greatly enhanced. If the schools fail to respond appropriately, these students can face tremendous obstacles. (Streissguth 1997, p. 208)

This chapter presents the data from the study which has emerged by giving participants a voice to authentically describe their experiences and needs. The account from participants has been used to develop the various resources that appear in diagrams and tables throughout the chapter. The data analysis also represents a critical response and dialogue with participants’ perspectives to highlight how the findings of the research go beyond what is available in the current literature.

The literature indicates that students with prenatal exposure to alcohol are in classrooms and that classroom teachers have educated, and will continue to educate, students presenting with FASD (Blackburn, Carpenter and Egerton 2012; Carpenter 2009; McAndrew 2006). Although a small percentage of these students will have been diagnosed with FASD, many students with FASD remain undiagnosed. Whilst prenatal exposure to alcohol does not have an impact on all children, those who do experience effects, must cope with the lifelong consequences.
As the reviewed literature highlighted, students presenting with FASD will not outgrow their condition, as there is no cure. It is a lifelong brain-based injury which will have an impact on various areas of their development. Within the western world, FASD is often referred to as a ‘hidden disability’ as only a small percentage of individuals will present with the physical characteristics indicative of FAS, but most will present and appear as young energetic students. Longstanding research highlights that the severity and type of damage sustained by prenatal exposure to alcohol appears to be dependent on a range of intersecting factors such as the timing of the alcohol intake and the amount of alcohol consumed (Renwick and Asker 1983; Mattson, Schoenfeld and Riley 2001). Adding to this challenge, and expressed by many classroom teachers participating in this project, no two students with FASD present with the same behaviours, characteristics or needs, although a minority of students with FAS may have identifiable physical characteristics or birth defects indicative of prenatal exposure to alcohol.

As students presenting with FASD enter the education system, their classroom teachers, student education support officers, and administration staff will undoubtedly face new challenges in mapping the individual educational needs of these students. Children and young people with FASD can often be frustrating and puzzling for classroom teachers whilst their behaviours and learning styles often leave classroom teachers questioning traditional learning theories and pedagogical approaches. One teacher participant stated:
At first I felt inadequate as a teacher, I was questioning my own ability, but after spending time on the internet and discussing the learning styles of students with FASD with my colleagues, it became easier. I just had to adapt my classroom approach.

The learning environment within an education setting encompasses both the social and physical qualities that impact on the students’ and teachers’ classroom experience. It may include the classroom management approaches, the way in which the physical space is organised, furnished and maintained, along with the teaching practices adopted by classroom teachers. A classroom teacher explains:

*The classroom environment that we create can have a huge impact on the learning of these students. We need to take the time to make sure our classrooms are inviting, have clear classroom rules and accommodate for a range of differing behaviours and learning needs within our planning and programming.*

As outlined earlier, the primary data which informs this research was collected throughout one academic school year. Throughout the data collection process, 80 hours of classroom observations were undertaken with 50 hours spent in the primary school setting and a further 30 hours within the high school arena. A total of 17 educational staff, including six high school teachers, eight primary school teachers, a student
support officer, along with the research site school principal and assistant principal, contributed to this research. In addition, eight parents and caregivers who participated in the Yarning Circles, sharing their ideas, experiences and hope for their children and others with FASD. Along with the many areas of curriculum focus observed in the primary setting, the following high school curriculum areas were also observed as part of the context of the study;

- English
- Mathematics
- Humanities and Social Science
- Health and Physical Education
- Technologies

The data collected throughout this research indicated the need for educational staff to appreciate and acknowledge that students presenting with FASD have the ability to learn, and that classroom teachers must find ways to support FASD students in discovering their strengths within the learning environment, allowing them to experience success and engage with their educational journey. Of significant importance, the research site is one that is showing early national leadership in positioning educators to be innovative in developing successful classroom practice and teaching strategies to support students presenting with FASD. Furthermore, the research site is taking the lead from international literature which recognises that successful education of students presenting with FASD requires classroom teachers to adapt and individualise the educational environment and academic program to address the specific learning profiles of individual students with FASD (Blackburn, Carpenter and Egerton 2009; Crawford 2008; Malbin 2002; Streissguth 1997).
The aim of this research is to investigate and report the teaching strategies currently being implemented in one Australian school to inform educational policy and best practice for Australian educational staff working with students presenting with FASD. This case study responds to this aim and has been developed across a two-year engagement with one school and its community including three extended visits to the site across one academic school year. Public documents, semi-structured interviews, focus group Yarning Circles and researcher observations have been analysed to identify best classroom practice in working with students with FASD and their families. This analysis applied grounded theory approaches to develop initial themes for further testing, validation and triangulation.

The following discussion reports the data under the eight themes that emerged from the analysis of the data. These are:

- Supporting Inclusion
- Executive Functioning
- Retaining Information
- Sensory Processing Challenges
- Classroom Culture
- Transference of Learning
- Consistency and Routine
- Inquiry Based Learning
Supporting Inclusion

Highlighted within the following themes are the emerging practices from the data analysed in relation to inclusivity of students presenting with FASD:

- Inclusive Practice
- Teachers Attitudes towards Inclusion
- School Home Relationships and Inclusion
- Professional Learning

Throughout the data collection and analysis, one emerging theme was at the forefront of the participants’ thoughts and actions. Analysis of the findings associated with inclusivity revealed that all the classroom teachers, along with the parent/caregiver participants, agreed that inclusivity of all students in all areas and settings within their school environment was of the utmost importance to ensuring students presenting with FASD continued to be engaged and experience academic success.

As the data from this research indicate, this differs from much of the previous research around inclusivity in a variety of ways. Firstly, many teachers working within mainstream schools will find themselves alone in their endeavour to meet the needs of those students with additional needs. Secondly, the data reveal how teachers, school administrators, parents and caregivers and community members are working collaboratively, sharing ideas, resources and strategies to ensure inclusivity for those students presenting with FASD. Finally, despite the increased prevalence and/or acknowledgement of FASD, and with some students presenting within the normal range
of academic ability and thus not eligible for the limited funding, this community is
proactively creating an educational environment that is supportive and inclusive of
children and young people with FASD and their families. This section reports the
experience of the community in this case study organised around the four practices
identified above.

Inclusive Practice

As Tindle (2002), O’Leary (2004) and Carpenter (2009) explain, individuals with
FASD have a permanent brain based disability. This brain damage can include missing
brain structures, damaged brain structures and damaged brain pathways and
connections. As the result of differences in exposure patterns such as when their birth
mothers consumed alcohol and to what extent, the type of damage sustained and the
symptoms expressed varies greatly from individual to individual. In sharing thoughts
around inclusion and inclusive practice, one teacher described how one student with
FASD within their classroom was very adaptable to change, can read and comprehend
within their expected age range and shows responsibility for their personal belongings.
In comparison, the teacher indicates how a different FASD student has sensory
processing difficulties which impact on their ability to stay focused on a task, the
student displays behavioural issues and although has extremely well developed verbal
skills, they have difficulty in reading and writing tasks. It is imperative that education
staff understand that no two students with FASD will present with the same educational
needs and the presentation of FASD can vary enormously from student to student. It is
for this reason that; classroom teachers should be mindful of the academic
accommodations required for each student along with building a repertoire of pedagogical approaches to support inclusive practice. One teacher comments:

_Students with FASD are in the classroom working alongside their peers. At times, the activities maybe adjusted or revised, but every student is a part of our classroom and has something special to contribute._

Another teacher adds:

_All the students have something to contribute or share. I don’t think as a school we stop and think about inclusion, I think it just happens. All staff are aware of our students individual learning needs and we cater for those. I think we have a positive and strong school wide culture of inclusivity that works well within this setting._

Throughout the 80 hours of classroom observations undertaken, it was apparent that classroom teachers catered for varying levels of learners. During one observation, the classroom teacher made adjustments within the program, taking into consideration students’ strengths and abilities. Although all students were presented with the same task, their requirements and outcomes were individualised to cater for their personal strengths. The teacher explains:
There are some students here that are working one to one and a half years above their expected level, and others are working below their expected level. As teachers, we need to make sure that we extend and challenge each and everyone one of them. We can’t just give every student the same activity with the same expectation because they are all different and learn in different ways.

When discussing inclusivity, Soodak (2003) states that inclusivity is not just about student placement, but rather it is focused more on creating an environment that supports and includes all learners. Inclusivity is how the student is accepted in the classroom, the students’ participation and the educational and social success of students (von der Embse, Brown and Fortain, 2011). Furthermore, Avramidis and Norwich believe that inclusion implies a restructuring of mainstream schooling that schools can accommodate every child irrespective of disability, it is about accommodation rather than assimilation and ensures all learners belong to a community (2002, p. 131). When questioned in relation to what inclusivity meant for classroom teachers, one teacher participant states that:

It is about ensuring that students with different learning needs feel a part of the classroom, being accepted, not just in the classroom, but school wide, in the playground with their peers, and with other staff too.
Another teacher views inclusivity as follows:

*Every child has the right to come to school, learn, socialise and feel safe. I see an inclusive classroom as one that is including of all students, students with FASD, high achieving students and students from various cultural backgrounds.*

These examples of teachers’ approaches to their classroom practice demonstrate, that inclusive classrooms as equitable classrooms where students are accepted for who they are and where their individual needs, are met. Students are not treated in an identical way, but rather, the needs and interests of each and every individual student are provided for, supporting them with the necessary tools, conditions and assistance to achieve success and reach their individual potential. These findings are in support of research conducted by Bothma, Gravett and Swart (2000) who take the term inclusion one step further, highlighting that inclusion encompasses all learners irrespective of race, gender, class, religion, disability, culture or sexual preference. Such approaches acknowledge that each student has a right to access a learning environment, in a single system of education, that values, respects and accommodates diversity. This research goes beyond the principles suggested by Bothma, Gravatt and Swart (2000). It demonstrates the challenges teachers experience in attempting to deliver the ideal of inclusion within the classroom. It also provides specific knowledge about the relationship between the rarely understood presentation of FASD within the classroom and teachers’ work to achieve inclusion.
Interestingly, although both teachers reported above expressed their belief in inclusive practice, the second classroom teacher further indicated that inclusivity also involves including students who may not have additional needs, but who display differences in the way in which they learn or other characteristics. These approaches support research by Schwartz and Pollishuke (2013) who identify the importance of understanding that all students, those with and without additional needs, thrive in classroom environments that enables them to develop their personal abilities and academic skills. Adding to Schwartz and Pollishuke, this study contributes new information about how inclusive strategies are applied to address teaching and learning in diverse contexts.

Saffigna et al. (2011) also advise that students achieve better educational outcomes when their diverse strengths, abilities, interests, and cultural practices are understood and supported. Valuing and respecting diversity is vital for students to develop a strong sense of identity. Although they have yet to develop support mechanisms or policy for educational staff working with students with FASD, the Victorian Department of Education and Early Childhood Development propose that principles of equity and diversity are linked to students developing a sense of belonging, identity, and wellbeing so that they become effective communicators and confident, involved learners (Raban et al. 2010). This principle was highlighted by one classroom teacher in this project, who explained that the classroom was filled with a ‘diversity of students’ with differing educational needs and felt that each individual student contributed to their classroom in a different way. The teacher reflects:
In our classroom we have experts. Experts in certain areas, so I use those experts in peer learning groups or just in the everyday running of the classroom. I have an expert in spelling, so if other students require help with spelling words and I’m not available, they know they can ask him for help. I also have experts whom have great organisational skills so when students are packing up or transitioning to snack time or a visit to the library those experts support other students in knowing what is coming up next or just supporting them to pack away their workbooks and getting ready for the next task.

For the first time, these practices bring to light classroom strategies that actively include FASD learners strengthening their engagement through the role of experts, sharing ownership of and leading their own learning and that of others.

Whilst undertaking observations within the same teacher’s classroom, it was evident students enjoyed working together, sharing ideas and guiding each other to complete a set task. Students would offer each other help or give direction to those finding it difficult to remember the steps required to complete the task. It was also apparent through both classroom observations and semi-structured interviews, that peer learning was a strategy undertaken to teach independence and build social skills.

This pedagogical approach conflicts with Carpenter (2011) who suggests that peer groupings may be a problem due to the student with FASD often being irrational.
Within his research, Carpenter revealed that several teachers reported that when they had implemented the buddy system within their classrooms, it did not work well. Several teachers participating within Carpenter’s research, claimed that when FASD students were involved in peer learning groups it would lead to ‘the buddy actually being physically or verbally abused by the child with FASD’ (Carpenter 2011, p. 131). Throughout the data collection process, this behaviour was not evident within peer learning groups, nor was it indicated by classroom teachers as an issue that required their attention. In fact, many classrooms teachers implemented peer grouping throughout their programs, as they felt all students benefited from the interaction and peer learning that occurs when students are grouped with others who have a variety of skills and strengths.

Contrary to much of the literature, this research finds that there are no single strategies that can be applied to all students. Teachers highlighted that although all classroom teachers accommodate each student’s individual learning needs, their strategies differed. One teacher explained that developing independent learners is important. To do this within their classroom, the teacher explained that they allow students to work through their problems together instead of intervening to solve small issues enabling students to build problem-solving skills in a supported setting. The teacher comments:

*This is an important skill for students with FASD, well for any students really.*

*We need to ensure students leave the education system with a sense of*
independence, strong problem solving skills and social skills, so they can go out into the community and participate, contribute and live independently.

Furthermore, this classroom teacher supported the idea of all students being able to use the resources around them to problem solve collaboratively allowing students to develop their social skills with both their peers and teachers. In comparison, the classroom teacher who uses “experts” within their classroom suggests that this is a strategy for highlighting individual differences in a positive way allowing students to use their strengths to contribute to the classroom functionality. This aligns with Tomlinson (2014) who believes that most students accept the notion that within a classroom everyone is different and that whilst some possess strengths in sport others may be academically strong. Adding to this, Fischer and Rose (2001) state that attending to differences, assists each student to experience a degree of triumph, while encouraging them to be all that they can be, as individuals.

Extending the ideas of Tomlinson (2014), Fischer and Rose (2001), another teacher suggested that thinking of inclusion when approaching students learning needs, was not a deliberate focus. The teacher stated that by observing each child’s abilities and strengths and getting to know the student as an individual learner, it as possible to adapt the curriculum to suit each child’s learning needs. Tomlinson (2014) along with Stronge, Ward and Grant (2011) claim that, when classroom teachers address students’ differences and interests, it enhances their motivation to learn while encouraging them to remain committed and stay positive. Additionally, Tomlinson (2014) suggests that if
classroom teachers ignore these fundamental differences it may result in some students falling behind, losing the motivation to engage and then may lead to students failing to succeed. Although this classroom teacher has no previous experience in working with students with additional learning needs, the approach applied is reflected in the following observation:

*If I identify the students’ learning styles, as a teacher I can capitalise on their individual strengths and I’m also aware of the concepts they find difficult so I can work on those concepts indirectly.*

Adding to this, the teacher commented that many of the students were showing improvement in areas such as reading and maths. When asked why this was so, the teacher replied:

*I think it is due to knowing the student, looking at their preferred learning style and then incorporating this into the way each lesson is approached. I think that once the students experience the excitement that they can actually successfully master a skill, they become more engaged and their attitudes towards reading and maths start to change.*
Avramidis, Bayliss and Burden (2000) bring to our attention that inclusive education can have a profound impact for classroom teachers as they have increased pressure to undertake a wider set of roles than teachers in previous generations. Additionally, their research into mainstream classroom teachers’ attitudes towards the inclusion of students with additional needs highlighted that classroom teachers who have had experience with additional needs students have a positive attitude towards inclusivity compared to their peers with no or limited experience.

Despite the above desire to be fully skilled and equipped for inclusive practice, the teachers within this school did not have the requisite knowledge. A majority of the teacher participants within this investigation explained that they did feel increased pressure when they commenced working with FASD students, but over time and with the support of, their peers and education support personnel, they were developing their skills, strategies and confidence in working with FASD students. Only one classroom teacher has a special education qualification and long-term experience working with students with additional needs. Adding to this, a number of teachers explained that they have undertaken higher degree studies in special education and believe this will strengthen their knowledge and classroom practice when working with all students with additional needs, especially those affected by prenatal exposure to alcohol. The outcomes of this study go a long way to identifying ways to meet the challenges faced by such teachers.
Teachers’ Attitudes Towards Inclusion

Forlin and Hopewell (2006) believe that it is the teachers who set the tone of classrooms and the success of inclusion is dependent on the attitudes of teachers and their ability to interact, access resources and provide inclusive educational programs taking into consideration students’ strengths and learning capabilities. It was evident in the research data that educational staff at the research site work alongside their community to access resources from international experts via the internet and provide inclusive educational programs which support learners with FASD.

It is been reported already that within educational settings that there are many varying views and concerns relating to the inclusion of students with disabilities in mainstream settings. Additionally, past research has indicated that the type and severity of a student’s disability further impacts on the willingness of educational staff to accommodate the individual learning needs of students with additional needs whilst simultaneously planning and programming for typically developing students (Soodak, Podell and Lehman 1998). In a small group semi structured interview with classroom teachers, a theme was uncovered in relation to teachers’ attitudes towards inclusivity. A majority of the teachers suggested that their positive attitude and pedagogical approach aided their ability to provide individualised learning opportunities for children and young people with FASD to experience success within the educational setting. One high school teacher says:
I don’t think about inclusion, it’s just best practice for all teachers to produce lessons that are supportive for all learners.

Another explains:

I get so much joy from watching all our students do well. Our students with FASD are no different to the other students, they’re just learning at a different pace and in a different way.

Even though Australian policies have been developed, nationally and at state level to ensure that all students with additional learning needs have the ability to access services, employment and education, Carroll, Forlin and Jobling (2003) believe that within the Australian education system, many teachers attitudes towards inclusive education is not positive. This was in contrast to the data analysed within this research, although three teacher participants offered the following three reflections:

At times, planning and programming for such a vast spectrum of learning abilities can be time consuming.
Of course we can become frustrated, but I think that is more with the system, not the students.

I’m sure each one of us gets frustrated every now and then, but so do all teachers. I think it takes time for teachers to develop an understanding of FASD just as it did for teachers who were working with students on the Autism spectrum or students with ADHD twenty years ago.

Forlin and Forlin (2000) believe that the success of inclusion is dependent on the attitudes of the teaching staff and their ability to interact, access resources and provide an inclusive educational program taking into consideration students’ strengths and learning capabilities. Earlier, Forlin’s 1995 study of five schools throughout Australia reported that teachers’ attitudes and a lack of shared school philosophy towards inclusive education restricted school environments in becoming more inclusive. In contrast, participants within this research supported Carroll, Forlin and Jobling’s (2003) research findings indicating that the current success of their school’s ability to nurture the growth of such a high number of students with FASD and students with undiagnosed additional learning needs is due to the positive attitudes of school staff and the school philosophy. A distinctive feature of this school’s approach is the unified philosophy that is implemented through the daily actions of teachers and community members. For example, teachers identify and share both their successful and unsuccessful strategies through a staffroom communication tool. Teachers are not afraid to expose their attempts and learn from the sharing of experiences.
These teachers reported a shared view of the challenges faced when planning and implementing programs into their daily lessons and their desire to enable positive educational outcomes for their students, yet identified clear differences in their experiences and challenges. One teacher states:

*As a school we work together, swapping ideas and resources all the time. In other schools that I have worked at, it seems that everyone is too busy. Here it’s different. Staff take time to share their approach, resources, ideas and sometimes their failures.*

Whilst another claims:

*Each of us have difficult days, but knowing that other staff are there to support you, and who understand, is how we each get through the tough days. Some days we think our program is tight and that we have covered all areas, but our days can go downhill with students requiring additional time on certain activities or we need extra time so students grasp the concepts prior to moving on.*
This is consistent with the Australian research conducted by Shaddock, Giorcelli and Smith (2007) who identified that teachers who successfully include students with a disability in their class tend to collaborate a lot with others. Building upon Shaddock Giorcelli and Smith (2007), one teacher who recently commenced working at the research site discussed how the school had supported this transition by ensuring that a peer mentor was appointed to support induction and settling into the community:

Coming to a school which has a high number of students with additional needs was new to me. I didn’t know much about FASD, but having a mentor where I can bounce ideas and share my frustrations has made me a better teacher. We all work together and brainstorm new ideas and strategies, which is good for both the teachers and the students.

As illuminated by the reviewed literature, many educators are supportive of the principle and goal of inclusivity, but some teachers do have concerns in relation to teaching students with additional needs in their mainstream classroom (Shaddock, Giorcelli and Smith 2007). Many teachers believe they do not have the skills, knowledge or resources required to fully support the differing learning styles of those students with additional needs. Center and Ward’s (1987) Australian study with mainstream classroom teachers indicated that their attitudes to inclusivity reflected a lack of confidence in both their own instructional skills and in the quality of support personnel available to them. The data collected throughout this research, in which the majority of the classroom teachers indicated that they felt supported by their peers and
school management, conflicts with Center and Ward’s findings. Because FASD is not recognised as a supported disability, teachers continue to be challenged to access appropriate other resources such as specialists including occupational therapists, psychologists and speech therapists.

One teacher expressed a lack of personal confidence in accepting a role at the school due to the perceived challenges. As a result, this teacher recently enrolled in a higher education course in the hope that it would enhance and extend professional knowledge and teaching practices.

*I have been lucky to come to a school which is so supportive of the students and families. Everyone’s attitudes are so positive and there is a community approach being taken. This is my first year working with students with special needs and it’s like we are all learning together. Teachers, teachers and parents and teachers and the education support staff, so I don’t feel alone and my confidence is building day by day.*

This demonstrates teachers’ capacity to lead their own professional learning and provides a new dimension to the current research.
**Home-School Relationships and Inclusion**

Adding to the emerging theme of inclusivity, teacher, parent and caregiver participants discussed the importance of home/school relationships. During a Yarning Circle with parents and caregivers, it was explained that within the community there is a no blame, no shame ethos adopted to ensure parents and caregivers and individuals impacted by FASD are supported without judgement. A caregiver explains:

> We moved here from a community where people were judging me, telling me that my child had these difficulties because I drank alcohol while I was pregnant. What they didn’t know was that ‘Jess’ is a foster child which we fostered from birth. There was no early indication that ‘Jess’ had developmental issues until he started pre-school. I think it is sad that people judge or blame the parents, it’s not acceptable. In my case I am not the birth mother.

Another parent observes:

> I think the community approach we are taking supports our relationship with the school teachers. I have a good relationship with the school teacher. If she is having any problems with my son or she wants to tell me how well he done with his reading or spelling words, she’ll give me a call or email me.
For some years, contemporary research has demonstrated the benefits of collaborative relationships between home and school for students with additional needs. Christenson and Sheridan (2001), along with Henley, Ramsey and Algozzine (2008), indicate that some of these benefits include positive attitudes towards learning for both the classroom teacher and students, improved classroom behaviour, improved programming and overall, more successful schools. Extending on this, Yssel et al. suggest that, ‘the voices of parents along with parent participation is considered to be a vital component within the education of students with additional needs’ (2007, p. 356). They add that it is the parents who are pivotal in making and sustaining changes in special education, specifically inclusion. The importance of parent involvement is now so widely accepted that it has been identified as a necessary and valid indicator of quality outcomes in the education of young children with disabilities (Soodak and Erwin 2000). Soodak and Erwin extend suggesting that by achieving effective parent-professional partnerships in inclusive settings appears to be a complex process that involves commitment and understanding by all parties concerned. Discussions with parents of children and young people with FASD within a Yarning Circle promoted confidence and enabled parent and caregivers to share their thoughts, with one parent participant explaining:

*Due to our location, Ben’s teacher will come out to our house at least once a term just to check in and share any concerns or achievements. Sometimes she will suggest things I can do with Ben at home or I let her know what we have been doing here to support ‘Ben’ at home.*
Parent participation in the education of children with additional needs is influenced by a number of factors, including parents' perceptions of the quality of their interactions with school personnel. Dinnebeil, Hale and Rule (1996) highlight that parents of students with additional needs perceived that collaboration is fostered by classroom teachers and service providers who demonstrate interpersonal and communication skills that reflect trust and respect which follows through to their interactions, behaviours and positive attitudes towards their children. This is consistent with research conducted by Odam et al. (2005) which indicates that parents’ satisfaction with their participation has been linked to opportunities for informal interactions with education staff and qualified professionals along with access to support services. Yarning Circle discussions revealed that such communication is especially important in the context of the education of students with FASD, given the lack of formal recognition of FASD as a disability and lack of local resources available for those impacted by prenatal exposure to alcohol. One parent states:

_It’s important we have good communication with the school. We live in a community where we see the teachers at the pool or at the shops. Of course the kids are going to stop and say hello. It’s like anywhere really, the teachers are the same as us, we treat each other with respect whether you’re at school or at the pool._

A caregiver explains:
Because we are working together and learning together about FASD, the teachers are happy to listen to us when we talk with them about our concerns. I get frustrated not knowing how or what to do with Ben and some of his behaviours, so I can just imagine how the teachers feel. We’ve had teachers over for dinner or social functions where they get to see the kids in a different light, I think this gives them another insight into how these kids function. Don’t get me wrong, there are times when both the teachers and us as parents get frustrated with each other, but at the end of the day I think it’s that we are frustrated with the system, the lack of information out there around FASD and how to educate these kids successfully and perhaps the time it takes to get access to specialists, it can be overwhelming sometimes.

From the above comments, it is clear that respectful communication between classroom teachers and parents is essential in supporting students with FASD. In serving as an advocate for their children, parents in the Soodak and Erwin (2000) study found it necessary to challenge professional judgment, question established practice and fight for what they believed to be best for their children. Palmer, Fuller and Arora (2001) express that it is imperative that parents of students with additional needs must feel that classroom teachers are able to accommodate their children’s learning needs and be willing to access and share information around strategies and teaching ideas. Earlier research conducted by Grove and Fisher (1999) in relation to parents and the process of inclusive education, found that the parents viewed education staff as lacking in knowledge about their child’s educational and developmental needs, and they found it difficult to access teachers or other staff willing to both provide them with information
and receive information from them. A key aspect of the approach taken within this research gives voice to the parents, caregivers and teachers and further demonstrates that the dialogue between these stakeholders yields the most effective strategies for addressing FASD within the classroom and beyond.

Research conducted by Harry, Allen and McLaughlin argues that when there is cultural and linguistic diversity among parents of students with additional needs, ‘parents may have strong and varied opinions regarding their interactions with special education professionals’ (1995, p. 372). For example, they found that some parents felt that their input was not valued, time and scheduling were limited, paperwork was emphasized over collaboration, professional communication was not easily understood, and parents were not placed on an equal footing with school professionals. These perceptions resulted in parent uneasiness and parents feeling unable to influence or support their children’s education. In support of Harry, Allen and McLaughlin (1995), Rao (2000) believes that these perceptions from culturally diverse families make trusting, reciprocal relationships challenging and often result in parent withdrawal from meaningful involvement in their child’s education. This lack of collaboration between classroom teachers and parents and caregivers of students with FASD can be problematic, given the need for parent-professional partnerships and planning for students on the FASD spectrum, especially in light of this area being so new.

*Having a relationship with the parents and caregivers of any student is positive.*

*As teachers we can learn a lot about our students, their home lives, what they*
like and their strengths. Just through informal conversations at the supermarket or at the post office I have learnt that one of my students enjoys playing Sudoku, so as a ‘early finishing’ box activity I have printed off Sudoku sheets for them to work on. Another parent told me the other day that their child enjoys skipping, so I can use that information and source a skipping rope for them to use at lunchtime. Parents are a great source of information and the more information I have, the better I can do my job.

When discussing the relationship with school community members within a Yarning Circle, one parent explained feelings of frustration. This parent reported that while parents believed they had a good relationship with the school, the school personnel and specialists, they felt that they would like better communication involving the strategies that were being implemented in their home and how teachers could support these strategies in the classroom and school grounds. The parent continues:

*My children have routines in place at home, but teachers don’t have the time or resources to make sure these routines are followed through at school, it’s like the kids have two sets of rules and this doesn’t work for these kids, I suppose we need everyone on the same page, and that’s just not happening. As parents we have our kids the majority of time, we know their behaviours, the things they respond to and how to calm them down. I think that there are so many kids on the FASD spectrum and all of these kids have different needs and are at different*
levels so it’s hard, hard for both the school and for parents. What works for one child doesn’t necessarily work for another.

In exploring inclusion of students with additional needs in this setting, it became clear that there was diversity amongst the parent and caregiver group, both culturally and linguistically. Harry, Klingner and Cramer suggest that when educational professionals are working alongside of culturally and linguistically diverse students and their families they need to consider parents’ and students’ first and second language skills, their understanding of their child’s disability the additional needs of their child and culture-based perceptions of appropriate educational services (2007, p. 54). The data explicitly illustrates not only the challenges of working in the context of FASD, but also the practical approaches teachers apply in addressing these challenges.

At this research site, many teachers felt that their relationships with parents and caregivers is an important factor that contributes to their approach to programming and their delivery of lessons. This suggests that communication alone is not enough and teachers expressed the need for comprehensive professional learning that enhance their curriculum knowledge, planning and implementation.

**Professional Learning**

Using grounded theory strategies for organising data around key themes, a matrix of concepts, experiences and insights form educators was developed. This matrix
illustrated that teachers felt it was of high importance that they were able to access and participate in professional learning in relation to teaching students presenting with FASD. Despite the attention given to diagnosing FASD and describing the children’s characteristics, there has been no systematic investigation of the educational needs of students presenting with FASD or the educational strategies for effective teaching and learning within Australian education settings. The literature points to the fact that there is currently no direct guidance from government agencies within Australia that educational staff can refer to when investigating teaching strategies or support for students presenting with FASD. However, non-profit parent led organisations such as the Russell Family Fetal Alcohol Disorders Association and the National Organisation for Fetal Alcohol Spectrum Disorders provide some guidance, but there is a need for further development and direction in the current Australian curriculum framework.

In countries such as Canada and the United States, there is extensive guidance and a well-developed system of provision for students with students. For example, the Winnipeg School Division in Canada has had specialised classrooms for students presenting with FASDs since the beginning of 1995 as a result of provincial surveillance data collected which identified 118 alcohol exposed infants born between 1993 and 1995 and the anticipation of increased identification and enrolment of children with FASD in schools (Millar et al. 2014, p. 1). Malbin (2004) explains that what occurred in the Winnipeg School Division was a paradigm shift in the understanding of the needs of students presenting with FASD. The situation in Australia is different. Classroom teachers, parent and caregivers concerns within the research site are reflected in the following comment:
If our governments, both state and federal, know that FASD numbers across Australia are increasing, why is there no funding to support students with FASD and their teachers?

The results of a qualitative investigation into how classroom teachers included students diagnosed with FASD in their classrooms undertaken by Dybadhl and Ryan (2009) in the Pacific Northwest, highlighted that a high percentage of teachers felt that professional development for FASD inclusion either had not occurred or was perceived by the participants as ineffective. Participants claimed that professional development programs focused more on the physical and behavioural characteristics, not on teaching strategies or practical ideas to use within the educational setting.

Within this investigation parents, caregivers and teachers agreed that although there seemed to be a lot of medical information available about FASDs, the prevalence of FASD, prevention information and the physical characteristics of a person with FASD, there is a lack of knowledge and services available to support and guide teachers in regards to classroom best practice for these students. One teacher explains:

We don’t have access to people in Australia with the expertise and experience of working with students with FASD in schools, so there really isn’t any professional learning program aimed towards how to teach kids with FASD or
how to support students with FASD in our classrooms. Here, we are using strategies and ideas from Canada and the UK. The education department and schools don’t have enough funding to bring these experts out here to Australia nor do they or would they think of sending us teachers overseas for professional learning, so we are really learning as an isolated group.

Most of the teachers who participated within this research spoke enthusiastically about the need for professional learning focused on children and young people with FASD in the educational setting. This supports Dybadhl and Ryan’s (2009, p. 189) findings where teachers expressed the need for ‘real information which would enhance their practice’. This study begins to fill the gaps identified in professional information and provides an evidence based set of strategies and resources for addressing the needs expressed by both researchers and teachers. In their monograph examining the current status of research, policy and practice regarding alcohol use in pregnancy in Australia, in particular in relation to FASD, Burns et al. acknowledge the need for professional learning for educational staff working alongside of those impacted by FASD. Burns et al. extend by suggesting that professional learning alone is not the answer but is only ‘the tip of a large and more complex set of factors that must also be tackled’ (2012, p. 72).

The literature (Berlach and Chambers 2011; Barton and Armstrong 2008; Konza 2008) highlight the importance of creating schools and classrooms in which all students, without regard to individual needs, are educated together. Additionally, the literature
also suggest that inclusion is about altering the educational setting to make them more responsive to the diverse groups of learners. In support of the current literature, the data gathered to inform this research endorsed these earlier studies and provides evidence of the success of this approach and illuminates that the research site is working together to ensure students presenting with FASD are provided opportunities to learn and develop in a supportive, inclusive educational setting. The data add to the literature and indicate that teaching staff are making every effort to enhance their knowledge in relation to the educational needs of students presenting with FASD although they believe there is a void in the accessibility of professional learning programs within Australia to support their needs.

The table below presents a new resource, Practices which Support Inclusion of Students with FASD. It represents the emerging themes in relation to best practice currently being undertaken within the research site to ensure the educational environment is inclusive of students and their families, specifically those affected by prenatal exposure to alcohol.
Practices which Support Inclusion of Students with FASD

- Cater for individual learning styles;
- Create equitable classrooms;
- Value, respect, foster and celebrate diversity;
- Support students with FASD strengths, using them as experts where possible;
- Use peer leaning to build independence and social skills;
- Ensure students have easy access to resources to problem solve collaboratively or independently;
- Know students as individual learners and adapt curriculum delivery to respond to this knowledge, motivate and engage students in their learning;
- Know the academic abilities of each student;
- Adopt a No Blame, No Shame ethos and apply it;
- Maintain strong relationships with parents and caregivers;
- Extend teachers’ knowledge through purposeful professional learning;
- Ensure students with FASD feel accepted and part of the school community, both in class and the playground;
- Approach students with FASD with positivity.
- Maintain routines where possible.

Figure 8: Strategy Resource 1 - Professional Knowledge for FASD Inclusive Classrooms.

The table is also a summary of the practices applied successfully within the research site to achieve inclusivity for students presenting with FASD. Although some of these practices may seem familiar to many educators, there is little evidence of these being applied in this specialised context within Australian education.
Executive Function

The literature indicates that executive functioning difficulties are common among children with prenatal exposure to alcohol (Wilford et al. 2004). This claim was supported through data collected from classroom observations and teachers’ input throughout this case study. Parents, caregivers and educational staff openly discussed the strategies they adopt to ensure students with FASD remain engaged, feel valued and are provided opportunities to contribute to class learning. A teacher comments:

*Many of our students with FASD have difficulty with their executive function which can impact on their learning, their attitude towards school and their success at school. I have a student who has cognitive issues. This means that I need to make sure I repeat instructions or use short instructions. He does get frustrated and angry and takes time out, but we just start fresh once he is settled. He can’t help it; he can’t control it.*

Research has shown that children with prenatal alcohol exposure show impairments in several areas of executive functioning including cognitive flexibility, response inhibition, planning, reasoning, and working memory (Rasmussen and Bisanz 2011). Deficits in these areas may also explain some of the behavioural and social impairments commonly reported in children with prenatal alcohol exposure such as poor judgment, the inability to plan ahead, the inability to understand consequences, and impulsivity (Niccols 2007). Within the education setting, Kodituwakku (2009) indicates that deficits in this area can interfere with the successful completion of some of the simplest
tasks of daily living for individuals with FASD. They add by explaining that the types of functional issues that may be observed as a result of executive functioning deficits fall into two broad categories, cognition-based difficulties and emotion-related difficulties. Cognition based executive functioning limitations, according to Kodituwakku (2009), may become apparent in the student’s inability to understand and remember the precise steps of a given task or sequence of instructions. One teacher explains:

I try to make sure that I give all students shortened instructions, no more than three steps. As an example I might ask the students to put their books away and then sit on the mat. I will then walk over to ‘Pat’ and just quietly repeat the instructions. This way he isn’t distracted by the classroom noise and he can follow the instructions. Other students will also ‘help’ their friends by explaining to them what they need to do.

Another teacher who works with students within the high school explains:

When I first starting working with students with FASD I kept forgetting that sometimes they know exactly what to do one day and then other days they can start a task but have difficulty recalling how to complete the task. Now I find the best practice is to model the task and then when the students are ready, with their work books out on their desk, repeat the instructions. It’s also important
that you have their attention prior to giving verbal instructions. I try and make
sure that all students are listening before explaining the task. It’s also different
in the high school years as students can be embarrassed and act out if they
aren’t sure of what they are supposed to be doing. They don’t want to ask for
help in front of their peers. When this happens they can shut down, leave the
class or become angry and give up. Because I know this, and I know which
students may need the instructions repeated, I will just walk around the class to
make sure they are on track and understand the task. I might get some of the
students to repeat back what is expected. Also before the students arrive in
class, I will have what we will be doing written on the whiteboard. I’ll use
different coloured whiteboard markers for each step. This also helps them read
the instructions or refer back to each step. When I use the different colours the
students can see where they are up to and what is coming next.

These strategies were supported by Blackburn and Whitehurst (2010) who identify,
among other strategies, that using clear, simple language and being prepared to repeat
instructions can support children and young people with FASD learning and minimise
behaviours. This research clarifies further, that each individual FASD student requires
different approaches for each activity across the day. Simple and repetitive language
alone is not enough. Every situation and each student with FASD requires a unique
response, put simply and repeated frequently. Teachers must constantly reinvent their
approach to every student in every situation. This is a significant and complex
challenge for teachers as they work to improve learning outcomes and scaffold learning
for those students presenting with FASD.
When discussing emotion related executive functioning difficulties, Kalberg and Buckley explain that emotion related executive functioning deficits may ‘manifest themselves within the classroom as the inability to prevent responses’ (2006, p. 60). An example of this is when a student with FASD speaks out inappropriately or when their behaviour is impulsive or overly active. A student with FASD may speak out before thinking about what is acceptable in a particular situation or may even have difficulty in controlling their actions when they become upset. One teacher explains:

*It can be difficult as a teacher when one of your students becomes upset or over-reacts to a situation. Some students can become really upset over small things. I suppose we know our students and what works best for each one, but every now and then students can have ‘bad days’. They might forget how to complete a set task, they might forget what they were supposed to be doing, they might just get overwhelmed with the classroom noise or something one of their friends have said or done, but their response to the situation can be excessive or extreme.*

In response, teachers offer new insights which provide advice on managing such behaviours.

*Prevention is always important. Minimising situations that we can foresee that the students may struggle with is one approach. When planning my lessons, I*
always think about individual students and think about what the lessons will look like within the classroom and how am I going to deliver that lesson. As a team, we also believe that we should model behaviour so the students can visually see what is expected or acceptable. I am also aware of how the students are working and make a judgement on whether I need to just slow the lessons down or break the lesson into two lessons.

Given the complex nature of every interaction with FASD students in the classroom and the additional challenge of their unpredictable emotional responses, this research further highlights the need for classroom teachers and educational staff to be highly skilled and knowledgeable practitioners. FASD students with executive functioning complications experience difficulties retaining information in their memory for later use when solving simple tasks, planning tasks and maintaining attention to complete a goal. Within the classroom this may be evident in a FASD students’ inability to follow directions, generalise information from one situation to another, or organise events into a logical sequence or timeline (Kalberg and Buckley 2006). One teacher explains:

Every morning we have the same routine, a routine we have established since the very beginning of the year, but five months later, I still need to guide Amy in our morning routine, just give gentle reminders to spark her memory.
Contradicting Kalberg and Buckley (2006), another teacher states that their FASD student didn’t display any difficulties in following directions or solving tasks. The teacher acknowledges that:

This is where you can see that each of these students are individuals on a spectrum, they are all different with a different set of abilities. I have read literature that says due to their difficulty in executive functioning that some students with FASD experience difficulties with maths, but ‘Sam’ is excellent at maths and will often challenge me with maths quizzes. I have to make sure I have extension work set for ‘Sam’ because he is always first finished. ‘Sam’ seems to be able to follow directions, stay on task and complete most of his work, but I find that he does over-react when he becomes frustrated with a task or doesn’t get to complete the task in the allocated time. This is something I noticed, so now I give time warnings such as five more minutes until we are packing up. I will give the students the warning at five minutes, two minutes and then one minute, this seems to work. I have noticed another teacher uses an egg timer where the students can see the time running out and use that as a visual guide.

As the data indicate, executive functioning difficulties in students presenting with FASD can be illuminated in a variety of behaviours. The participants within this research confirm that no two students presenting with FASD are alike. The research reveals that teachers need to be equipped with a multitude of strategies so that they can
respond effectively to the individual needs and circumstances of each student. One teacher contributed that those students presenting with FASD and executive functioning difficulties can take longer to complete a task as they also have organisational difficulties:

*I need to make sure that the equipment or tools required to complete a task are carefully set out at each work station because students with FASD can easily become distracted when they need to leave their desk. They seem to forget what they are looking for or get distracted by something out the window or another student.*

Another adds:

*One FASD student within my class has great difficulty in initiation of a task. They sit there and procrastinate. When I approach them to offer guidance, they become anxious. I have found that if I give one short, sharp instruction at a time it will help them move on from that procrastination stage.*

It is clear that not all students experience difficulties attending to tasks even when executive functioning maybe diminished. Experiences reported by participants challenged many existing assumptions. They have highlighted the need to rethink their
approach when delivering curriculum instructions and tasks to ensure students with FASD experience success and engagement within the learning environment.

The following table (Figure 9), presents a resource which pulls together the practices identified as supporting executive functioning difficulties of students with FASD.

<table>
<thead>
<tr>
<th>Practices to Support Executive Functioning Difficulties of Students with FASD</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Model expected task in steps. Show the end product.</td>
</tr>
<tr>
<td>• Ensure the student’s full attention prior to verbal instructions</td>
</tr>
<tr>
<td>• Write the instructions in coloured steps</td>
</tr>
<tr>
<td>• Minimise situations whereby students may become anxious or find difficult</td>
</tr>
<tr>
<td>• Model expected behaviour</td>
</tr>
<tr>
<td>• Break lessons into achievable steps</td>
</tr>
<tr>
<td>• Maintain routine</td>
</tr>
<tr>
<td>• Give gentle reminders of what is required in a set task</td>
</tr>
<tr>
<td>• Give timed warnings when a transition is to take place</td>
</tr>
<tr>
<td>• Use simple and short instructions.</td>
</tr>
<tr>
<td>• Take time to approach the student to ensure they have understood the instructions.</td>
</tr>
<tr>
<td>• Have students repeat back instructions.</td>
</tr>
<tr>
<td>• Allow time for students to process and respond to questions.</td>
</tr>
<tr>
<td>• Give plenty of verbal and visual warning that an activity is coming to an end.</td>
</tr>
<tr>
<td>• Ensure tools and equipment required for tasks are set out or easily accessible to minimise movement.</td>
</tr>
<tr>
<td>• Support student to initiate tasks.</td>
</tr>
<tr>
<td>• Always use positive feedback for students.</td>
</tr>
</tbody>
</table>

**Figure 9:** Strategy Resource 2 - Practices to Support Executive Functioning Difficulties of students with FASD.
While the list includes some already known strategies implemented for a range of students with additional needs, as shown in Figure 9, this research identifies a suite of new which are identified as specifically directed towards addressing the unique needs of those students presenting with FASD.

Retaining Information

Individuals with FASD exhibit structural changes in various brain regions like the basal ganglia, corpus callosum, cerebellum and hippocampus which can impact on their ability to learn and retain their new knowledge (Mattson, Schoenfeld and Riley 2001). Further, the literature reports that poor memory or the ability to retain information is a primary disability associated with damage to the hippocampus region of the brain. The hippocampus is a structure of the limbic system and plays an integral role in both learning and memory functions. Mattson, Schoenfeld and Riley (2001) explains that the primary role of the hippocampus is to consolidate short term memories into long term memories. Extending on this, Mattson, Schoenfeld and Riley (2001) explains that deficits in both spatial and verbal memory amongst children presenting with FASD is thought to be associated with the damage to the hippocampus.

The literature also acknowledges that inconsistent memory may be observed in the form of a student remembering a task for two days yet, forgetting how to complete the task on the third day. As well, some children and young people with FASD may not learn from their past mistakes often making the same mistakes over and over again. Morgan (Insight 2013) describes that throughout her schooling teachers didn’t get to know her
or the difficulties she faced as a learner, instead they just ignored her or pushed her until she lost her temper. Enabling parent and caregivers in a culturally safe environment to openly discuss their experiences, one caregiver participant explains:

> It gets really hard some days. We know that Ben can do things because we have seen him do it lots of times, but then some days he just can’t remember how to do it. Ben likes to cook pancakes. But he can’t do it by himself. He needs one of us there to guide him or help him remember how to do it. Ben gets really frustrated and angry if he can’t remember how to do something. So we just have to calmly tell him it’s ok, we all forget things. We have just finished making a visual cook book for Ben which we think will help him remember, or at least trigger his memory.

The frustration discussed by the parent was also observed by classroom teachers at the research site. Staff noted that some students with FASD become frustrated when they know how to complete a task but have difficulties in processing or remembering the steps required to complete the task. Teachers explain that many of their students’ experience difficulties in remembering concepts they have learnt previously which impacts on both the students learning and the teacher’s ability to move through the curriculum. One teacher notes:

> Within the classroom I deliver lessons that are short but give students explicit experiences. First I will model the task visually showing the students the goal
and then we work step by step to achieve the goal. This is a strategy that currently works with my students with FASD.

Another teacher remarks:

Although it can be time consuming we complete difficult tasks as a whole group so we can support each other and everyone is experiencing the same learning at the same time.

A further teacher shares:

FASD is a brain based injury. Some students do forget how to complete easy tasks, but we can’t change that, we need to work the best we can to be creative and support these students in their learning. Within the school some teachers refer to their visual schedules, others in the upper grades write their instructions step by step using different coloured whiteboard markers so the students can refer back to. In my classroom I make use of peer learning groups so students can talk to each other whilst they are working giving those with memory difficulties opportunities to follow, listen and learn at the same time. Through using peer learning groups, students with FASD build confidence and self-esteem, they aren’t just sitting there waiting and trying to remember what they need to do or how to do it.

Participants at the research site acknowledged the importance of understanding that these difficulties arise due to brain-based damage caused by prenatal exposure to
alcohol. The above quotes from parents, caregivers and teachers also reveal the shared concerns and struggles in making learning successful for those students experiencing difficulties in retaining information. The research reports new understandings and the importance of shared responsibility for effective communication between home and school to support the successful learning of children and young people with FASD.

Furthermore, this research critically extends on the existing knowledge by profiling the importance not only of the various strategies, but also by highlighting that this must been done in the context of effective communication. The table below, (Figure 10), presents a resource developed from the thesis outlining themes identified as supporting students presenting with FASD whom experience difficulties in retaining information and current practices being undertaken within the research site.

<table>
<thead>
<tr>
<th>Practices to Support Students in Retaining Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Model tasks.</td>
</tr>
<tr>
<td>• Complete tasks as a whole group.</td>
</tr>
<tr>
<td>• Use peer learning groups</td>
</tr>
<tr>
<td>• Remember Fetal Alcohol Spectrum Disorders are brain based injuries which are lifelong.</td>
</tr>
<tr>
<td>• Write instructions on the board using different colours for each step.</td>
</tr>
<tr>
<td>• Maintain communication between home and school.</td>
</tr>
</tbody>
</table>

**Figure 10:** Strategy Resource 3 - Practices to Support Students in Retaining Information.
Sensory Processing

Sensory processing disorders have been highlighted as a significant issue for students presenting with FASD. The literature explain that sensory processing disorders can cause challenges with routine activities, social interactions and academic performance (Ben-Sasson, Carter and Briggs-Gowan 2009). The following section addresses the emerging themes highlighted through the data analysis of various classroom strategies observed and the contribution of parents’ and caregivers’ individual experiences. Classroom modifications which aim to improve the learning environment for children and young people with FASD along with a discussion in relation to the ‘external brain’ will follow.

A parent who contributed to this research described how an everyday visit to the local shopping centre can cause her child to become over sensitised causing her to display behaviours such as anxiety and confusion.

*Even a trip to the local shops can cause Alley anxiety. It is the noises in the shopping centre, the people, other kids crying or screaming that can cause Alley to become upset, cry, hold her ears and sometimes hit me or run off. I am lucky that Alley is now at an age where sometimes she can explain to me how she is feeling or if we need to leave.*
Students presenting with FASD often have difficulties with the way they interpret sensory information within their environment. Within the classroom, they may be so focused on what they hear, see or feel on their skin, that they find it difficult or impossible to focus on other things such as classroom instructions. Soby (2006) suggests that some students with FASD may become unresponsive or display unacceptable behaviour as they try to stop or block out the sensory stimuli that are unsettling them. However, data from this study demonstrate approaches that not only acknowledge the challenges, but also, reveal specific triggers that affect students presenting with FASD. Understanding these triggers helps teachers to enable students to move beyond them. One classroom teacher reflects:

*As the environmental stimulus increases or decreases, so does the students’ behaviour, therefore we need to remove one thing at a time to find out what stimuli is causing stress to the student. It may be a light buzzing which I might not hear but because of their heightened sense of sound it bothers them and can cause them to act out. It maybe the smell of something or someone’s food, it could be a tag on their uniform or it could just be another student walking roughly on the carpet.*

Another teacher comments:

*At the beginning of the year, Ben would often be upset or angry when it was time to transition from the mat to the tables. I found an article online that said students with FASD can get overwhelmed by too many instructions at one time,*
so I tried different things but found that after modelling the activity for the class, I give Ben time to go to his table and get his book out. Once I know he is ready, I’ll go over and quietly explain the activity again using short sentences. I think this allows him to hear what is expected without the noise of the other students. Throughout the allocated time I will often just look over or check on Ben, but usually if the task is broken down into smaller steps he is ok. By doing this, I also know that he is listening to me and it gives him an opportunity to have time to process what needs to be done. Lots of the little ones need time to process, they need the instructions broken down into smaller parts. But what works today doesn’t necessarily mean it will work tomorrow.

The sensory processing capabilities of students presenting with FASD is portrayed within this research as a particular challenge for teaching and learning. This research demonstrates that teachers are insufficiently equipped and do not have access to knowledge or strategies in the Australian context so that they can confidently respond to the sensory processing needs of their students. They enthusiastically attempt to discover appropriate approaches and spend copious amount of time searching for guidance and often resort to trial and error. This is a serious concern for Australian education policy and practice.

Classroom Modifications to Support the Sensory Processing Challenges of Students with FASD

Within the classroom observations conducted, it was apparent that classroom teachers had taken time to ensure their classrooms were well organised and structured with many
teachers indicating that through minimising the impacts of visual stimuli and demands to process and interpret new information, it allowed students to focus on the task at hand. Additionally, classroom teachers believed that having minimal visual distractions around the classroom setting assists in diminishing the confusion and frustration many children and young people with FASD may experience.

One teacher notes:

*I have always taught students in the earlier years where I would display their work throughout the year. My classrooms were inundated with bits and pieces, but here, working with these students, the classroom is uncluttered and although their work is still on display and there are still posters on the walls, it has meaning to them. I think it is more about minimising the visual distractions, making sure that what teachers display has meaning to the students, their needs and their surroundings.*

Another teacher explains:

*The calm environment provides a sense of security for these students. Sometimes their thoughts can be overwhelming, fast and confusing, but through providing a classroom where they feel a sense of belonging, that is calm and uncluttered, gives these students a place to focus, learn and contribute without the visual and sensory overload of items stuck on the windows or hanging from the ceiling distracting and confusing their thoughts.*
A theme highlighted in the data was the importance of the classroom setting. It was evident that the classroom setting should be well-organized and designed to accommodate the student’s need for reduced stimuli. Some classroom teachers provided students with headphones to reduce stimuli. Whilst the educational literature consistently reports the importance of the classroom environment for learning, a comprehensive view of what is required to support the learning of students with FASD in Australian schools is not readily available. One teacher discussed the impact of this approach:

_The headphones allowed the FASD student to concentrate on the table top activities by minimising the classroom noise. This has also minimised outburst of frustration and allowed the student to engage with their work whilst also cutting down on behavioural issues._

Many of the classrooms within the research site had breakaway areas, which were quiet areas with cushions on the floor, allowing a time out for those students feeling overwhelmed, frustrated or just needing time to themselves to reflect or self-calm. Another breakaway area was in classroom carrels where students had the opportunity to move away from their peers and complete their tasks without distractions. Tanner-Halverson reminds classroom teachers that the carrel, which she refers to as ‘the office’, should be used as a privilege and never as a punishment (1997, p. 81). One classroom teacher explained:
It is important to use the carrel as a work space, not as a place where teachers can move students because of their behaviour. It can become confusing for students if teachers use the breakaway areas as a punishment for disruptive behaviour. They are there for students to access when they are feeling anxious or know that they need to move away. Breakaway areas create a quiet place where students can experience a physical release and some solitude whilst still in the classroom.

In support another teacher shares:

Students seem to be able to get their work done a lot quicker in the carrel. They are removed from the general chit chat of their class mates and can focus on their task without anyone disturbing them. Jack will often just pick up his books and move himself to that area so he can get his work done and have more time for reading. That’s his favourite thing to do. Read.

The claims by Tanner-Halverson (1997) are challenged by this research. During classroom observations a young student became quite upset and unresponsive to the classroom teacher. The classroom teacher suggested that the student move to the breakaway area for some quiet time. The classroom teacher further explained that by suggesting that this direction was not a form of punishment, but instead a time for the student to self-regulate, calm down and take time out from others around them. Adding to this, teachers used the breakaway space as a resource to positively support student learning and enable a safe space for students to self-regulate and return when ready. The classroom teacher remarks:
Learning to self-regulate is a skill students with FASD need to learn, it will be a lifelong skill they can use in their everyday environment.

These educators also maintained strong relationships with state educational support services including psychologists, occupational therapist and speech therapist who assist classroom teachers in their endeavour to provide an educational environment that was inclusive and supportive of students with FASD and their individual learning needs. The support services personnel visit the research site on a regular basis and are available for staff consultations, email and phone to answer questions or provide guidance to the classroom teachers. One classroom teacher comments:

By working closely with the occupational therapist and support services staff they were able to provide sensory tools and strategies to lessen the impact of a sensory overload for students with FASD.

Furthermore, the classroom teacher highlights:

Although the advised strategies can be as simple as providing the student with a small manipulative toy such as a stretchy keychain or a squishy ball, it is important to work closely with the professional support services staff when adapting classroom practices or implementing different strategies.
Occupational therapists, physiotherapists and speech therapists are trained in sensory issues, tactile strategies, speech and language difficulties, the developmental of fine motor skills, self-regulation strategies and cognition difficulties and are an integral part of the school and school community. Another classroom teacher explained that throughout their education degree there was little or no discussion around the sensory difficulties that some students may encounter, nor were they skilled in the area of students with additional needs. The teacher made the following reflection:

> At uni they had guest speakers come and talk to us about Autism and ADHD but it was more of an information session. It didn’t give us ideas of how to approach our teaching, sensory issues that students may have or our classrooms environments. It was just behaviours to look for, not strategies.

Parents and caregivers acknowledged that some of their little ones experienced tactile defensiveness and tactile stimulation causing behavioural issues both within their home and social environments. Wilbarger and Wilbarger (1991) defines tactile defensiveness as an overreaction to the experiences of touch or an observable aversion or negative behaviour in response to certain types of sensory stimuli that most people experience as inoffensive, or it could be a withdrawal response. One caregiver explained that every morning is a battle getting their child ready for school because they refuse to put on their school shirt and shoes:
Every morning he cries and starts to yell and scream. I’m exhausted even before the school bus arrives.

Another caregiver explained how their child won’t play in the sand pit at school, nor will he walk around the streets without his shoes on. It is evident from these descriptions that, although a child may have sensory processing difficulties, it can present differently from child to child. Research conducted by Smith et al. indicates that some tactile defensive children hesitate to eat unfamiliar foods and may react impulsively to the smell of food. This is important knowledge within the educational context, as many schools have set times where students sit together and eat their lunches or snacks. Students with tactile defensiveness may act out at these times due to the odour of foods and in some cases as highlighted by Smith et al., ‘gag, bite their inner lips or cheeks and become agitated’ (2005, p. 14).

Another example of FASD students presenting with tactile defensiveness was highlighted during an art lesson, when one student showed their dislike for their hands touching paint. The student was working well and seemed very calm and engaged within the class, listening to instructions and sitting still. When the students were involved within the activity, this child accidentally got paint on their hands and become immediately distressed and disengaged with the activity. This demonstrates that teachers, even when supported, can struggle to assist all students to be engaged in their learning and supports the call for more resources for both teachers and students.
The External Brain

The literature, in relation to sensory processing difficulties in children prenatally exposed to alcohol, outlines a range of approaches to support learners. The literature search did not reveal any discussion of the concept or function of an external brain as a tool. However, whilst it did not figure in the original literature search, this research stimulated further inquiry with regards to teaching practices and strategies when working with students with FASD and their individual sensory processing difficulties. The research found the first reported evidence of the application of the concept of the external brain was being applied as a tool to support students with FASD and their sensory processing difficulties in the education setting.

Although external brain strategy was not discussed or alluded to at the research site, it was evident through observations and informal discussions that staff were in fact acting as the FASD students external brain. They do this by investigating ways in which they can make the classroom environment more suited to the needs the students, modifying the classrooms to ensure the students are able to be engaged in their learning along with being aware of environmental factors that may contribute to behavioural changes. One teacher explains:

*We are always watching, inquiry what we could do better to support the kids.*

*Sometimes it’s just about being one step ahead of them or redirecting their attention to another activity when you know that they are becoming frustrated or something or someone is making them anxious.*
Another teacher says:

*We all read as much as we can about FASD. We reflect on what we do every day. I suppose we try to identify different ways to approach our classrooms and the kids. It’s about assessing the situation, considering the implications of how we approach things thinking about every students’ needs and how our actions impact on those students with FASD. For example, one-day I wore a different deodorant which obviously over stimulated little Sam. I had to think about what had changed in our room, but then realised it must have been the deodorant. Sometimes we can be working and I’ll see Brad becoming upset about the noise level in the room, I’ll ask Sandy to take him outside and give him 5 minutes to walk around the school then he will be back and ready to work.*

The idea of the FASD individual’s need for an external brain was first voiced by Dr. Sterling Clarren, one of the pioneers in the field of FASD research in Seattle, Washington. Dr Clarren referred to the external brain when referring to the presence of another responsible person who can mentor, assist, guide, supervise and/or support FASD person to maximise success (Kellerman 2003). Kellerman extends by explaining that ‘a person who has impaired vision is given a seeing eye dog a person with impaired hearing is given an interpreter or a hearing aid’ (2003, n.p). These external devices are necessary for the person with physical impairments to be able to function to maximum potential in life.
Schwab an Occupational therapist and Community Liaison Worker, for the Interagency FASD Program in Winnipeg Manitoba, believes that often classroom teachers suggest that students with sensory integrative disorders experience behavioral difficulties but explains that these behaviors are only a symptom. ‘The real problem is that the FASD child’s brain cannot make sense of the world around them’ (2003, p. 4). Schwab (2003) implies an understanding that the sensory integrative disorders result from central nervous system damage and the brain’s inability to process information properly, will often lead to an increased acceptance and understanding that the child is not always deliberately trying to defy or hurt others. This involves a reframing of a teacher’s perception, a paradigm shift, in conventional thinking.

The Interagency Program professionals in Winnipeg Manitoba work together as a united team to offer support, education and counseling for families and community to address the issue of FASD by providing thoughtful and creative services in an understanding, supportive and nurturing manner. Schwab’s model (Figure 11), used by the Interagency Program, expands on Dr Clarren’s external brain concept to illustrate where professionals can intervene with strategies, such as environmental modifications, reduced sensory stimulation, structured sensory modulation techniques and self-regulation.
Through semi-structured interviews with classroom teachers, it became evident that the support and knowledge of occupational therapists who visit the school on a regular basis assisted teachers to understand and respond to the sensory processing difficulties experienced by students with FASD. Teachers at the research site indicated that one strategy may work one day or even for several days, but ‘this doesn’t mean that it will work for the whole year’. One teacher explains this further:

*I think it is about knowing each of your students. Knowing what they like, what distracts them in the classroom environment, what works best for them. I also think it is about being flexible and knowing that you might have planned a whole*
day’s work for the kids, but in the first five minutes you may have to change the plan or even use a different day plan.

During an informal conversation with a specialist working with the students affected by sensory processing difficulties at the research site, it was highlighted that students with FASD may not be able to concentrate during table top activities due their filtering system not screening out the feel of their chair, their writing tools (crayons, pencils or textas), the texture of the paper or the light within the classroom. Cutting and pasting activities may become distressing because of the feel of the glue or the internal fear that they may get glue on their hands or clothes. Furthermore, the researcher came to understand and observe how sensory processing disorders present differently in students, some may have an aversion to their clothes whereby others may need to be covered from head to toe, some may act impulsively through aggressive behaviour if accidently touched by one of their peers where others enjoy deep pressure touch which can calm them. Comments from one teacher are as follows:

We always need to be one step ahead of the kids. We need to think about each child when we are planning an activity, we have to think about the support we will have in the classroom at the time of the activity, just in case one of the students have a ‘melt down’ or become overly sensitive and play up. We also have to think about the set-up of the room, our student groupings, and be aware that our day may not go to plan, but that’s what we all do.
The sensory processing difficulties experienced by students who are prenatally exposed to alcohol can be a significant challenge, both within the educational setting and their everyday life. The research data supports the literature and validates the imperative that educational staff working with children and young people with FASD minimise the sensory impact within the classroom and provide a calm learning environment. Further, the research challenges current levels of services and resources and stresses the importance of providing Australian educators with full access and the ability to utilise the many services available for special needs education support within the school. It also presents a range of practices necessary to support sensory processing difficulties in students as summarised as a resource for educators in the table below.

<table>
<thead>
<tr>
<th>Practices to Support Sensory Processing Difficulties</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Acknowledge student behaviour may be due to environmental stimulus;</td>
</tr>
<tr>
<td>• Minimise visual distractions;</td>
</tr>
<tr>
<td>• Repeat instructions for students with FASD individually once they are ready to start their work;</td>
</tr>
<tr>
<td>• Provide an uncluttered physical classroom environment;</td>
</tr>
<tr>
<td>• Provide a calm learning environment.</td>
</tr>
<tr>
<td>• Provide simple tools to assist concentration, e.g. headphones to block out noise or ‘squishy toys or fidget toys’ to keep hands busy;</td>
</tr>
<tr>
<td>• Provide breakaway areas for students to self soothe or have time out;</td>
</tr>
<tr>
<td>• Provide a work space where students can move to if they are being distracted by their peers or noise levels;</td>
</tr>
<tr>
<td>• Network with occupational therapists and school support personal;</td>
</tr>
<tr>
<td>• Maintain open communication with parents and caregivers;</td>
</tr>
<tr>
<td>• Apply the concept of external brain to complement other learning strategies for students with FASD.</td>
</tr>
</tbody>
</table>

Figure 12: Strategy Resource 4 - Practices to Support Sensory Processing Difficulties.
Figure 12 provides a ready account of the practices and modifications currently being implemented by educational staff at the research site to support students presenting with FASD and their sensory processing challenges. These have application across a wide range of educational setting and for students of varying abilities.

**Classroom Culture**

Throughout the data analysis stage of this investigation, many issues were brought to light. Through Yarning Circles, classroom observations and semi-structured interviews, participants acknowledged that the following five strategies were imperative in ensuring those students presenting with FASD were supported and provided learning opportunities to experience success within their educational journey. The five strategies are:

- Supportive classrooms
- The set of visual schedules
- Positive relationships
- Knowing students as individual learners
- Virtual school bags

The research significantly identified that it was critical to apply the strategies in an interconnected way. These linkages provide new ways of scaffolding learning whilst also providing an engaging classroom environment. These five strategies also supported and guided classroom teachers in designing their programs, ensuring that
their pedagogical practice and delivery targeted students’ strengths and weaknesses in order to scaffold their learning. One teacher reports:

As a teacher you are faced with so many students with different needs in one classroom. Here of course we have students with FASD, but we also have students with other learning difficulties. We have students who may not have learning difficulties but need support with their social skills. As a school we believe it is important to take time at the beginning of each year to get to know your students as individuals and build a reciprocal relationship with them. Through ice breaker activities or team building activities we get to know how the students interact, what they enjoy and how they learn which are all important because we can use this information in our everyday programs to support these students to stay engaged and feel valued.

The following discusses the themes emerging from the data in relation to providing a positive classroom culture, not only for all students, but in particular, for those presenting with FASD and their families. For the purpose of this research, classroom culture is being identified as encompassing the importance of positive relationships with students and their families, classroom teachers knowing their students as individual learners, managing the classroom environment to enhance positive behavior and the use of teaching methods that support and enhance learning, self-confidence and self-worth.
Supportive Classrooms

Creating supportive classroom cultures through which classroom teachers know their students’ strengths, their individual learning styles, social and medical needs, enables the teachers to engage students with the curriculum, whilst allowing them to feel success in their educational journey. The data collected indicate that parents, caregivers and teachers feel that supportive and inclusive classrooms, as well as the teacher’s ability to know the individual student’s learning strengths and weaknesses contributed to supporting the FASD student’s educational growth and journey. Within one Yarning Circle one participant openly suggests:

Although we are using international practice to guide teaching and give us ideas, we need to keep in mind that each student is very different. An example of this is that I have read that many kids with FASD can be disruptive, but the little one in my class is helpful, nurturing and loves learning, so sometimes it takes time to find strategies that we can use or adapt for our students, we have to find out what suits each FASD students individual learning style.

Carpenter (2009) suggests, students with FASD attend school and are in mainstream classrooms. It is important teachers know each student’s learning profile to ensure they experience success within the classroom. Furthermore, Ryan and Ferguson (2006) highlight that children and young people with FASD often attend class with teachers who are often ill prepared to meet their learning, behavioural and social needs which is not the case within the research site location. The classroom teachers in this research believe that it is of high importance to ensure that they are able to get to know their
students as individuals and individual learners so they can structure the classroom environment to suit their students’ needs whilst also using differing pedagogical approaches in the delivery of curriculum. One classroom teacher states:

Each one of the students in my class is different. They all like different things, they all learn differently and they all come with different personal experiences. I think we need to take time to get to know all students because at the end of the day, every student will learn differently and we need to cater for this in the curriculum we deliver. We need to make sure that all of the students attend school, learn and grow in their own unique ways.

Another teacher suggests:

We can’t just look at a diagnosis, we need to observe the little ones and not just assume that they are their diagnosis.

Malbin (2002) indicates that parents and professionals report a significant shift in their perceptions about students with additional needs, especially students presenting with FASD, once their disability is understood from a neurological perspective. As a result, feelings toward those with FASD also change, moving from frustration to understanding and acceptance. This was supported by Crawford (2008) who found that educators who successfully engaged and taught students with FASD, articulated that
viewing the student with FASD, their learning styles and behaviours as a result of specific brain damage, assisted them in their approach to educating these students. Educators viewed what they saw at school within a context of a brain based disability and this significantly altered how they supported the student. One teacher participant explains:

*Kids with FASD have a permanent brain injury and we need to take that into consideration in our teaching. We need to know what their individual abilities are, and design our programs in accordance. I think that we need to understand that their behaviours are not always naughty behaviours. They are behaviours that reflect their frustration at not being able to complete a task or comprehend what we are expecting of them. Also teachers are looking at FASD student’s chronological age and expecting them to be able to act or complete tasks at that level, whereas in reality, their chronological age doesn’t match their development age.*

As discussed in the literature reviewed, many educators will expect children and young people with FASD to develop and grow accordingly to an accepted chronological schedule and for physical, cognitive, and psychosocial development to occur at about the same rate as their peers. Unfortunately for students affected by prenatal alcohol exposure, these assumptions about development can impact on education professionals’ understanding of their abilities, and consequently, the expectations placed upon them. As Blackburn, Carpenter and Egerton (2012) explain, the developmental profile of a student presenting with FASD is variable and can mean some students presenting with FASD are difficult to accommodate within the curriculum standards. Adding to this,
Blackburn, Carpenter and Egerton (2012) explain that students’ with FASD expressive language may be advanced for their age and their reading skills maybe chronologically appropriate. However, in areas such as social skills and emotional maturity, students with FASD may be performing at half their developmental age. A high number of teachers who participated within this research suggested that it was important to keep this in mind when programing their weekly lessons, ensuring that they take into consideration individual student’s strengths, likes and abilities to firstly support student learning, enhance their skills and to provide a learning environment where all students experience success. Kulp’s (2013) diagram (Figure 13), illustrates how a child’s chronological age and developmental age can vary dramatically at any one time.

**Figure 13:** The Developmental Age and Ability of an 18-year-old presenting with FASD (Kulp 2013, n. p.).
In addition, Crowe (2009) suggests that it is imperative that classroom teachers get to know their students as learners as this will strengthen their ability to set routines and provide structure within their classrooms. Crowe adds, that knowing students is also core to forming a trusting student-teacher relationship, which is a major factor in students being engaged in school. A teacher participant explained some of the tools and strategies used to build relationships with students:

At the beginning of every year I create a student inventory which I can add to at any time throughout the year. This inventory has information such as what individual students like, their pets’ names, their brothers’ or sisters’ names, their favorite colour and little tips or strategies I have found that maybe useful in different situations. An example would be, Ellen is easily distracted during assembly or group time in the library, so I make sure I take her favorite book or a squishy toy to keep her seated or keep her from distracting other students. Another example is Ben, he likes to ‘run off’ when we are walking to the library or to P.E, so I make him the leader and give him the responsibility of carrying the equipment or books, Ben likes being the leader and doing jobs. I think it is these small things that help keep the students with FASD engaged and settled. You just have to take the time to keep entering small observations into the inventory, the more information you have about the individual student, the easier it is for you to manage their behaviors, learning and their social skills.
This comment illustrates the many flexible strategies teachers require to respond to the learning needs of students. It also suggests that with appropriate knowledge teachers are less likely to misinterpret poor behaviour as Zeiff and Schwartz (2008) claim.

The Florida Department of Education Bureau of Exceptional Education and Student Services (2005) has found that building teachers’ professional learning of FASD the participants reported they better understood students with FASD and were better equipped to deliver curriculum. Teachers reported that instead of feeling that a student with FASD wasn’t able to sit still, they now had the understanding that this behaviour was indicative of being over stimulated.

Teachers participating in this research identified rare experience of sound professional learning and argued strongly for more opportunities. They demonstrated a commitment to their own professional learning even when formal learning programs were not available. One teacher participant shares:

*Prior to coming here, I learnt as much as I could about FASD. I made contact with national organisations and health care workers. I researched the internet and read stories written by both parents and teachers. I understood that prenatal exposure to alcohol impacted on the brain development of the fetus. I also knew that kids with FASD can have difficulty with everyday situations and that can influence their behaviour, but what I didn’t know is to what extent.*
When I started here I thought Tyler was trying to test me, you know, test the boundaries, but after talking to his mum and the support staff, I was able to change the way I worked with Tyler and this changed his attitude and the way he treats others within the classroom.

When asked for an example, the teacher continues:

I know Tyler likes to read books about reptiles so I’ll try and have readers for him about reptiles. He also likes to draw, so I’ll set him a modified writing task and allow enough time to draw a picture to support his writing. Some of the staff use visual timetables for their students, so I tried these in my classroom and Tyler really likes referring to it so he knew what he was supposed to be doing and what we are going to do next. I think the visual schedule helps all students, not just Tyler. Some teachers have the visual timetables set up for their whole day, but I just do session by session so it doesn’t over stimulate Tyler and others.

The Use of Visual Schedules

Whilst discussing the visual timetable, two parent shared that they use these timetables at home. One parent explained that their children with FASD, ‘forget things, simple things like having a shower’. The parent added, ‘visual timetables help support the FASD kids to be independent, to give them a gentle reminder of what they need to do before going to school’.
One teacher supported the parent by suggesting that the use of visual schedules not only foster independence but also provides students with structure and consistency throughout their day. The teacher extended by explaining that visual schedules are cost effective and that teachers can develop individual schedules by using photos of the actual student, ‘this also gives them a sense of ownership’. The teacher explained that they found visual schedules an effective strategy as students are able to anticipate what will occur next, reliving anxiety and problem behaviours. The teacher also suggested that visual schedules are useful in motivating students to complete tasks, especially when the student can visually see that an activity they enjoy is on the schedule. Another teacher believes that when visual schedules are used in support of students with FASD that they provide a sense of trust and security. The teachers agree that ‘routine, structure and repetition also supports FASD students’ memory deficits’. These insights strengthen the application for visual schedules already reported.
The visual schedules also support the student with FASD to work independently as the student can refer to the schedule rather than ask the teacher what to do next. One classroom teacher explained that they implemented visual instructions in their classroom and has found them useful for all students, not just students with FASD. Another classroom teacher suggested that due to the lack of resources and guidance available locally, that they had adopted and adjusted the use of visual schedules and implementation strategies from resources used in supporting students on the Autism spectrum.

Positive Relationships

In support of what classroom teachers at the research site believed enabled students with FASD academic growth, Crawford (2008) indicated that when international FASD educators were questioned as to what they believed makes a difference to the success of a child with a Fetal Alcohol Spectrum Disorder at school, the overwhelming response was the establishment of a positive relationship between the teacher and FASD student. The teachers who participated in Crawford’s (2008) study believed that when a relationship isn’t established the teacher had little impact on the FASD students’ academic growth. Within semi-structured interviews with teachers at the research site, discussions revealed that positive relationship building between staff and students was an area the school acknowledged as important in supporting students presenting with FASD. Teachers noted that they believed that building trust between staff, families and students was the foundation of a positive relationship followed by being authentic in their approach to students and role modelling expected behaviour. A teacher explains:
Within the community there is a no blame, no shame ethos that everyone
understands. We accept that these students have additional needs and that it is
our job to support them in every aspect of their development. It’s important for
us to build a relationship with the kids, know what they like, what they don’t like
and make sure they feel safe and ready to learn when they come to school. I
enjoy giving the kids time to share what they did on the weekend or where they
went. Sometimes the families will invite me out fishing on a Saturday afternoon,
I suppose it shows the reciprocal relationship we have with each other and
besides, the kids get to see me out of the classroom and vice versa.

This research adds to the work of Sztejnber, den Brok and Hurek (2014) who indicate
that teacher-student relationships influence a student’s ability to adjust to the school
environment, do well at school and relate to their peers. Earlier research conducted by
Klem and Connell (2004) supported Sztejnber, den Brok and Hurek (2014), but went
further to explain that it was the teacher-student relationship that impacts on the
classroom management and the learning progress of students. The data in this thesis
support a further claim that the teacher student relationship is critical for the successful
learning experience of those students presenting with FASD. One mother shared her
story about how her son’s relationship with his teacher has had a positive impact on his
behaviour and his learning:

*Having Miss A as a teacher is good for Joe. He behaves at school because he
knows Miss A will tell me if he misbehaves. Joe had a difficult year last year,
but this year he’s doing well. He likes Miss A because she takes time to talk to*
him, share things and explains to the kids what she expects from them. I think Miss A looks out for him, even in the playground. The kids respect Miss A, she has a special way with them.

On the other hand, another parent explains:

I think it’s all well and good to say that we have a good relationship with the school, but we are the child’s advocates. We need to be strong and let the teachers know how our kids are, what their needs are and how to get the best out of them. We have a good relationship with the school personnel, some of the teachers come over and visit or we get together on special occasions, but that doesn’t mean that I think they are good teachers for my kids or that they know everything there is to know about FASD. We live with FASD every day and we are still learning. I know they are busy and that some of them have never taught students with FASD, but as parents we just want to see our kids learn, stay at school and not be sent home just because they have had a difficult day. Teachers need to have training around FASD, the behavioural issues, how and what to do when the kids get angry or simply how to avoid the kids becoming angry or upset. The education department should be putting some funding aside for these kids and their teachers.

The Yarning Circles enabled the discussion of the importance of positive relationships between members of the school setting, parents and caregivers. The research data indicate that whilst this relationship is important, it doesn’t stand alone and there is a
need for FASD information rich teachers. Within a media interview, Morgan (Insight 2013) explained that although she had a good relationship with most teachers, it wasn’t enough. Morgan (Insight 2013) suggests that the teachers didn’t understand FAS and explained that when discussing her difficulties with handwriting and spelling, Morgan explained to the teacher that she has FAS. The teacher responded by saying, ‘I’ve never had one of them’ and went on to ask Morgan, ‘Does your mum regret what she did to you?’ Adding to this, in the same media interview, Morgan (Insight 2013) was asked, ‘What would have made things easier for you?’ Morgan responded, ‘more supportive teachers. We have our families at home to support us, but we need those teachers to support us at school.

Furthermore, in the interview conducted on Insight SBS in 2013, one caregiver explained that on the advice of her daughter’s specialist, she approached her daughter’s school and arranged an information session for all staff to inform them of FAS, her daughter’s educational needs and difficulties that she may experience within the classroom. It saddened her that not one of the school personnel attended.

Within the research site, teachers reported that best practice was achieved by maintaining contact with parents and caregivers, to ensure positive dialogue when meeting with them. One teacher suggested that due to insufficient resources available within the education department it was imperative that they learn as much as they can from parents and caregivers as they can use this information to support the students and their learning. The teacher suggests:
It’s a two-way street. We learn from each other about the student, their abilities and what works and doesn’t work.

When discussing educational strategies which can support the success of students presenting with FASD, Duquette et al. (2006) believes that it is imperative that caregivers and school staff create a good match between ability, programming and positive relationships. In support, the National Organisation on Fetal Alcohol Syndrome, South Dakota (2009, p. 13) identifies that:

A team approach will help classroom teachers meet the complex needs of students with FASD. Successful collaboration involves teachers, parents, students and administrators, as well as community service providers from areas of mental health, social services and developmental disabilities. Membership in this collaboration should be flexible and draw on all expertise available in the school and surrounding community.

From a developmental perspective, the establishment of a positive teacher-student relationship aids a student’s cognitive, social and emotional growth whilst enhancing their mental well-being (Brazelton and Greenspan 2009; Weare 2000). Earlier Pianta and Walsh (1996) suggested that a stable teacher-student relationship can impact positively on a student’s developing sense of self and promotes resiliency. Furthermore, the benefits of positive teacher-student relationships extend to teachers, contributing to
an improved sense of job satisfaction (Goldstein and Lake 2000). A teacher explored this idea:

*I love it here. It’s hard in the sense that some days it doesn’t feel that we have accomplished much and each day brings a different experience and the kids are amazing, they’re resilient, they just bounce back and keep going. I suppose each teacher here is having a different experience, but for me, I’ve worked to build relationships with the kids, and their families. I know how each student in my class learns best, so it’s about adjusting the way I deliver the curriculum, not every lesson needs to be done at a desk or inside. By having a variety of delivery methods it helps me stay excited about teaching these kids and I think it keeps the kids excited too. We are all learning about what works best for students with FASD, it is a bit of trial and error and sometimes I might go home discouraged but 99% of the time I go home and think I’ve had a good day.*

While previous research identifies three different types of relationships which support student learning generally, this research significantly connects each of those relationships. It is the alignment of the three sets of relationships, student and teacher, teacher and other educational professionals and parent-caregivers-teachers that this research reveals as the foundation of an engaged and productive learning environment for children and young people with FASD.
Knowing Students as Individual Learners

Through classroom observations, it was evident that preparation, communication and positive relationships with FASD students allowed classroom teachers to be aware of the adjustments required when planning their lessons. One teacher explained that they adopted a holistic approach to their classroom practice, taking into consideration knowledge they had gained through slowly building relationships with their students. The teacher acknowledged that:

The curriculum is a guide. Teachers are able to use different modes of delivery to ensure the students are achieving. I can use art, technology and concrete hands on tasks to ensure that learning is occurring. I think that my classroom operates smoothly because I adjust my pedagogy to make certain the students are enjoying learning, I have classroom rules that we have developed as a group, I have a different relationship with individual students because I have built those relationships at the beginning of the year through circle time activities and team building activities.

The teacher extends by highlighting that:

Even though some students haven’t been officially diagnosed, they do display behaviours indicative of FASD. This is when we document their behaviours and collate information around what works best for individual students. We aren’t required to have individual learning plans, but as a school we build
relationships with the parents and observe their learning so we can make informed decisions about their academic abilities, personal abilities and I suppose the way they learn best. Most teachers here visit family homes at least once a term just to touch base and discuss students’ progress and through that information and our own observations adjust the way we deliver the curriculum to best suit individual learning styles.

These quotes reflect the evidence that teachers indicated the importance of taking responsibility for knowing their students as learners. One teacher explains:

*Although it is important to look at the students’ previous years reports and talk with their previous teachers, we have to get to know the students learning styles, behaviours and them as individuals, and not listen to previous teachers’ negative perceptions or experiences. One of the most important practices we have adopted here as a team is that we start each day, each lesson and each year with a fresh start. We try extremely hard not to bring back into the classroom what has occurred in the playground at recess or lunch. As teachers, we need to be aware that there will be times when the students with FASD may become over sensitive and react. We know they can display behaviours that are disruptive and that we can have really hard days, but we need to stay positive, understand that these students have brain injuries and can’t always control their own behaviours. We can’t take their behaviours personally and our personal*
experiences with students shouldn’t be based on others interactions with these students.

Adding to this teacher’s ideas, another participant explained that when they are experiencing a difficult day, it is important to simply slow the routines down. The teacher explains that they break their lessons into mini lessons with minimal talking which they believe helps to calm and refocus all students. The teacher states:

*This is something I have learnt that works with all students in my class. Knowing these students and the way they learn, I am able to judge the classroom climate and adjust my pedagogy to the students’ needs at any one time.*

These purposeful strategies explicitly reveal teachers developing their own body of knowledge in the absences of more readily available professional resources. Furthermore, another teacher explains:

*Even though there is limited local research around what works best for students with FASD, I think it is important that all teachers, not just the ones teaching students with FASD, to know their students as individuals, their individual strengths and weaknesses, their prior knowledge and adjust the way they organise and deliver their programs. I also believe that teachers should take*
risks in their delivery approach, try new things to keep students engaged and active. Traditional teaching methods suggest that all learning needs to be done in a classroom with the students sitting at their desks, but what we have learnt as a team is that teaching can take place in any environment and with different approaches.

While it is common practice in teaching to recognise that varied learning environments stimulate various learning opportunities, this research clearly demonstrates that actively understanding the learning environment and making constant adjustments to teaching practice is required for the engagement of students with FASD. The data reports that the teachers demonstrate that, by using the curriculum as a guide, they are able to meet the learning outcomes for all students through innovate and engaging student focused learning activities.

**Virtual School Bags**

Within this research, one teacher suggested that ‘we can gather a lot of information from within a student’s virtual school bag’. The teacher explained that although there is a high percentage of students within our school presenting with FASD behaviours, each one of them is different:

\[
I \text{ am surprised everyday about the knowledge, skills and information these kids have about a vast range of topics. I use their virtual school bags and build on}
\]

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the knowledge they already have. I suppose it’s called scaffolding their learning.

Thomson (2002) draws on her own experience metaphorically describing virtual school bags as being full of things that students have already learnt from friends, home and their wider world experiences. Virtual school bags need to support schooling approaches that consider young people’s interests, experiences and knowledges as this, supports student engagement and gives purpose to student learning (Lankshear and Knobel 2011; Lingard 2007; Carrington 2006). This study found that the virtual school bags students bring to school can be used as a resource. Significantly they also help teachers to identify stronger connections between students’ lives and curricular learning. One teacher explains:

You never know what a student knows until you have formed that reciprocal relationship, you need to build a relationship with them that allows them to share things with you, then and only then, can we make adjustments in our delivery of the curriculum.

Throughout the data collection process, it was evident that classroom teachers acknowledge that it is important to get to know the student as an individual learner, rather than a student with additional needs or one presenting with FASD. One classroom teacher described one of their students with FASD as ‘interested in
knowledgeable about the local area, she enjoys reading and writing and has a great imagination which comes through in the way she writes. She loves playing with her friends and her social skills are beyond her age.

Through these descriptions, the research data revealed that the classroom teachers are taking into consideration the students’ abilities and interests and using these as a guide when delivering curriculum, rather than their diagnoses. Furthermore, the conversation with classroom teachers makes clear that when teachers are aware of the students’ FASD individuality, they do not stereotype the student, rather they incorporate the student’s strengths, likes, dislikes and abilities to engage the student in active learning. This is a rich new insight into teachers’ thinking especially in the context of the void in Australian research to support teachers of students with FASD.

An example of how teachers are working with students’ strengths within the classroom was observed when a student with FASD with strong reading skills was assigned a leadership role and read to the other students while they followed in their own reader. An additional example was observed in the high school setting when a teacher, who knew the students well, made use of the students’ virtual schoolbag and incorporated their ability and love of cooking into a lesson of maths and procedural writing. In a discussion, the teacher explains:
Sometimes as a teacher you need to think out of the box. You have to consider what the students enjoy doing, their strengths and most of all the type of activities or learning in which you know they will experience success. Within that lesson, I was able to informally assess several components of the curriculum including health and wellbeing, maths and literacy.

Another lesson observed teachers who were using their knowledge about individual students and their virtual schoolbags within the high school setting. The teacher had noticed that the students were becoming easily distracted due to the afternoon heat. The teacher decided to modify their scheduled lesson and allow the students to make and design their own paper planes. This lesson was conducted over two days and two lessons. The lessons were based on maths concepts and at the end of the second lesson the students were able to measure the distance their planes flew and work out the average distance for the whole class. The teacher explained that it was possible to determine through the students’ behaviours that they were becoming unsettled:

Some days you have to judge the student’s mood and change your lessons to suit the mood in the classroom. If I had continued with my set lesson, some of the students may have become upset and that can cause behavioural issues. It’s best for everyone involved to be prepared and have a ‘backup lesson’ ready to go. The lesson was one I had planned to do, it wasn’t a soft lesson at all, it was just different to what we were working on previously and it was more hands on.
This research reveals the importance of approaching the curriculum as a guide, deliberately drawing on the students’ virtual school bags to determine appropriate teaching practices and strengthen communication and relationships between home and school. Figure 15, illustrates teaching practices that support positive classroom culture.

<table>
<thead>
<tr>
<th>Practices to Support Positive Classroom Culture</th>
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<tbody>
<tr>
<td>• Build a learning profile of the student with FASD, including their learning style, medical requirements and social needs;</td>
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<tr>
<td>• Acknowledge that FASD is a brain based disorder which cannot be repaired;</td>
</tr>
<tr>
<td>• Understand the particular learning needs of all students: Not all FASD learners will present with the same learning needs;</td>
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<tr>
<td>• Explore and apply different pedagogical approaches as one approach will not always work;</td>
</tr>
<tr>
<td>• Know your FASD students as an individual: when extending your knowledge, remember that what works for one student with FASD may not be appropriate for another;</td>
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<tr>
<td>• Use visual supports to aide independence;</td>
</tr>
<tr>
<td>• Develop and apply consistent routine, structure and repetition;</td>
</tr>
<tr>
<td>• Maintain and nurture positive relationships with both students and their caregivers;</td>
</tr>
<tr>
<td>• Look inside their virtual schoolbags and build on the knowledge and experiences they already have;</td>
</tr>
<tr>
<td>• Take a team approach when collating classroom rules. Support and encourage a positive attitude with and in the students.</td>
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</table>

**Figure 15:** Strategy Resource 5 - Practices to Support Positive Classroom Culture.
The practices outlined above create a new resource for teachers and reflect the new information related to essential and deliberate integration of strategies required to establish supportive classrooms and which particularly respond to the educational needs of students presenting with FASD.

Transference of Learning

Haskell refers to transference of learning as how ‘previous learning influences current and future learning, and how past or current learning is applied or adapted to similar novel situations’ (2001, p. 21). Classroom teachers at the research site highlighted how children and young people with FASD have difficulties in transferring or generalising learning:

*One of our classroom rules is that we must use quiet voices, but Tyler will only use his quiet voice in our classroom, not in the library or in another teacher’s classroom.*

Another example discussed was the ability of one student with FASD to work out percentages in the classroom, but finding difficulty in determining the final price of a sale item, given the discount amount. Research conducted by Shank (2004) suggests that it is important for teachers to create lessons that are directly applicable to how the content is used in the real world. One teacher shared how they use real money within their classroom when teaching money concepts in maths:
I use real money so that the students can relate it back to real life situations. The students get to handle the money and we use real life maths problems.

Sometimes I use catalogues and have students buy items or calculate the price of several items. I have also made several money games which is good for student’s social interaction and their numeracy development.

Whilst undertaking a classroom observation, it was noted that one student with FASD had difficulty transferring the knowledge they had learnt through the use of concrete materials into written form. The student could add 2 blocks plus 5 blocks but could not complete the sum $2+5=7$, when written mathematically. The parent of this child explained that although the child was considered to be in the normal range of intelligence, transference or generalising of learning was something the student found quite difficult. The parent explains:

At home my child can make colour patterns using matchbox cars and blocks, but they have difficulty completing a colour patterns worksheet at school.

When discussing the generalisation of learning with teachers throughout this research it was indicated that they were aware of the challenges faced in this area of students with FASD. Teachers at the research site found that the use of concrete materials and
modelling in teaching skills enhanced student’s abilities to transfer their learning for use in the community. One teacher explains:

*When you look at the curriculum it outlines the skills that students should be able to achieve according to their year level. As teachers we have the ability to deliver programs that scaffold the learning and skills that are outlined within the curriculum. I know quite a number of teachers who use worksheets to teach and develop students’ skills but here, where we have a mixed ability group of students, it is important to relate our teaching back to real life. We need to ensure that the way we teach or deliver our lessons support the learning, independence and social development of our students. One example would be in a literacy lesson whereby students are able to work together to make a sandwich and then write the steps they used. This could be supported by photos of the students completing each step and then taken home for parents to use to enable students to make sandwiches in their own home. I find these lessons also support health and wellbeing outcomes, language development and social skills.*

Healthy Child Manitoba (2010) reports that students presenting with FASD require consistent repetition to learn a new skill and be able to transfer learning from one situation to another. Extending on from Healthy Child Manitoba (2010), Florida Department of Education, Bureau of Exceptional Education and Student Services (2005) suggest that classroom teachers should provide opportunities for students with
FASD to apply newly learned skills through the use of role playing, excursions and other activities to teach transferring of learning to other situations.

This confirms and validates current research that the learning of students presenting with FASD is supported when concrete materials are used as a resource within lessons.

This research provides new insight about the need for practical and concrete learning experiences to support FASD student learning. As the data indicate, students prenatally exposed to alcohol may experience difficulties in transferring learning from one situation to another. Figure 16 brings together the need for building teaching practices that utilise a wide range of strategies and to vary these deliberately and often to promote independence and success at school.

<table>
<thead>
<tr>
<th>Practices to Support Students in Transference of Learning</th>
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<tbody>
<tr>
<td>• Use concrete materials where possible;</td>
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<tr>
<td>• Demonstrate concepts using real life examples;</td>
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<tr>
<td>• Vary delivery of curriculum to promote independence and social development.</td>
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**Figure 16**: Strategy Resource 6 - Practices to Support Students in Transference of Learning.

Transference of learning is an important skill in all aspects of life and daily living. The practices listed above are currently implemented by classroom teachers at the research site to support those students presenting with FASD.
Consistency and Routine

Classroom observations and semi-structured interviews highlighted that each classroom environment was structured to support not only students presenting with FASD, but all students, and their learning needs. Blackburn (2010) suggests that stable routines allow the students with FASD to know what to expect, decreasing their anxiety levels and enabling them to learn. One participant explained that classroom routines support attention, behaviour and time management:

*We have a morning routine which all the students know. We complete all our literacy and maths lessons in the morning when we know the students are ready to learn. In the mornings we know that some of our students have difficulty in transitioning from home to school but we allow time for this transition. Some students share breakfast prior to starting their school day, others will play outside or read a book in our book corner. Our school days usually don’t differ too much which helps the students with their anxiety about what to expect. The students with FASD in my class respond well to routine. I have found that if the students know the routine, and the teacher follows the routine, there are less behavioural issues’.*

Another explains that it was important for students presenting with FASD to have structure, routines and a classroom environment in which they had ownership and felt a sense of security in their learning. The teacher highlighted that the students contributed
to how the classroom was set up, the classroom rules and the daily non-academic duties such as collecting the lunch orders and taking the class roll to the office. The teacher clarifies:

By allowing the students a certain amount of responsibility, it builds their self-confidence, social skills and scaffolds their independence.

Root discusses the importance of maintaining a classroom environment that is ‘reliable and unchanging’ (1997, p. 6). Root also suggests that if a routine is to be interrupted it is important for the classroom teacher to prepare the students with FASD for this change. Teachers explained that when special activities are planned, such as special assemblies or excursion, they will take time to forewarn their students. Teachers also highlight if they are attending an excursion they will share photos of the place they will be visiting with their students and discuss with them what they may see at the excursion site prior to the excursion. Teachers report that by doing this, it helps alleviate anxiety or uncertainty for their students.

Whilst visiting the research site, it was observed that a change in the routine could occur at short notice, without time for the teacher to prepare the students. An example of this was when the specialist teacher was taken ill and students were unable to attend their weekly specialist lesson. The classroom teacher calmly explained the situation to the students and improvised by conducting a similar lesson within their classroom reading a ‘special’ book. The teacher later explains:
The students look forward to going to this lesson every week, but sometimes things happen that we can’t change. I know routines and structure are important, but we also have to think about preparing our students for life outside of the school ground. We need to build students resilience and adaptability in a supported environment so they know how to manage when things change.

When gaining input in relation to routine and consistency within the classroom, teachers at the research site all agreed that it was important that the layout of their classrooms were maintained. Teachers highlighted how children and young people with FASD can become overwhelmed if they enter the classroom and the seating arrangements are changed or if their work stations are moved. One teacher explained how when they first arrived at the research site they decided to rearrange the tables and student seating within their classroom thinking it would be a good idea for students to sit next to different students to extend their friendships and social skills. The teacher explained that when the students entered the classroom the next day, many of them were confused and anxious:

I was a new teacher and thought I was doing the right thing. I was able to defuse the situation by involving the students in rearranging the room again and having each student choose a name out of a tub for the seating arrangements.
Whilst acknowledging routine and consistency is important in supporting students with FASD, one parent explained that there needs to be a balance to ensure FASD students are also adaptable to change and have the capacity to become independent thinkers. The parent explained that ‘sometimes routines are disrupted by change of circumstances so our children need to be able to adapt’. The parent extended explaining:

> Within the education setting, structure and consistency can provide comfort and security, but as our kids mature and develop different skills, they also need to be prepared to function in the real world where our routines can constantly change without notice.

Balancing the need for complex and varied responses to students’ learning needs, as identified earlier in the chapter, with a framework of routine is required to meet the needs of students with FASD. The evidence presented offers a new insight about the connectedness of these somewhat potentially conflicting directions. Although conflicting, the data indicate the importance and success of managing to provide a sense of security through routine, as well as a varied set of responses to students’ learning needs.

**Classroom Rules**

Whilst participants agreed that routine and structure were vital in supporting students presenting with FASD, many also discussed classroom rules. One parent shares:
I think that the classroom rules also contribute to the routine and consistency of the classroom because the kids know what the rules are, they know the expected behaviour and they know the consequences of breaking those rules. I have watched Miss D refer to the classroom rules giving the students a gentle reminder.

Both parents, caregivers and teachers believe that having classroom rules support students in learning acceptable, safe and appropriate behaviour. A primary teacher shared:

The classroom rules in our room are for the safety of all of us. We never use the word ‘no’ at the beginning of a rule and the rules are created by the students. For example, our first rule is “We must not run inside’. This rule is for safety more so than behaviour. At the beginning of each term we sit together and develop five rules. I explain that these rules are to keep us safe and to make sure we can all learn together. There are no exceptions to the rules we develop and I expect that other teachers and staff who enter our room adhere to the rules too.

Another primary teacher who agrees, reveals the importance of consistent yet gentle classroom structure.
As adults we need to model the rules and behaviours we expect from our students. For example, one of our classroom rules is ‘We use quiet voices when inside’. Sometimes other staff will enter the room and use a loud voice to talk to our class assistant, or yell out from our store room. How can we expect the students to follow the rules if teachers or adults can’t? This is something that as a group we have discussed and we are now aware of. It is important for us as a group of teachers to have similar classroom rules, expectations and routines. It makes it consistent for the students, and for the staff.

Extending on these thoughts yet another teacher explains that at times students presenting with FASD find it difficult to follow routines or classroom rules. This further stresses the importance of clarity and consistency in daily routines. The teacher explains:

This has to do with their sensory processing difficulties, so we need to make allowances within our daily routines to ensure all students have the chance to move around, perhaps do some stretching exercises or some circle time activities just to break up the day. From what we have learnt as a group we know that if we allow these short breaks from our table top activities or ‘downtime’ our students have a better chance of following the rules and staying focused on the daily tasks. Sometimes as teachers working with students who require additional support or guidance, we have to change the rules to suit the students, students shouldn’t always have to fit the rules.
During this semi-structured interview with a group of teachers, one teacher suggested that rules and routines were extremely important, but it was also important for teachers to reward positive behaviours and formally acknowledge those students who work hard and try hard to do the right thing or show ‘school behaviour’. The teacher explained that as a school they had agreed that positive praise is a strategy that a majority of the teachers were finding beneficial. They continued to explain that instead of approaching students with FASD in a negative way about their behaviour they suggested that teachers should try looking at the positives.

The research findings suggest that structure and routine are not only essential for students, but also for the approach taken by teachers relating and working as a professional unit. Their approach to their own work and working with their own students is a reflection of what is required within the classroom for both teachers and students. Arguably, these findings can be extended to include parents and caregivers as they also work towards building positive learning experiences. For example:

*I’ve had a student who will constantly use another student’s pencil which makes the other student frustrated and annoyed. Instead of explaining to the student that he should find his own pencil or that he needs to stop using James’s pencil, I shared with him how happy I am he is working and that he is doing a really good job, but perhaps we need to go and find him a pencil of his own. This strategy works for the students in my class and it also reduces behavioural issues.*
The data indicate that participants agreed consistency, routine and classroom rules were important in supporting the educational growth and social development of students presenting with FASD. The table below (Figure 17) highlights the strategies implemented across the research site relating to consistency, routine and classroom rules. Building on the need for security and structure, classroom rules have been shown in this research to provide a powerful tool in engaging all students including those in the development of a safe classroom.

<table>
<thead>
<tr>
<th>Practices to Support Consistency and Routine</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Maintain routines to support attention, behaviour, time management and allow the students with FASD a sense of responsibility and security within their learning;</td>
</tr>
<tr>
<td>- Whenever possible, prepare students for a change in routines.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Classroom Rules</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Include students in preparing the classroom rules;</td>
</tr>
<tr>
<td>- Develop constructive and positive rules;</td>
</tr>
<tr>
<td>- Never use the word ‘no’ within the rules;</td>
</tr>
<tr>
<td>- Refer to the classroom rules on a regular basis;</td>
</tr>
<tr>
<td>- Model expected behaviours;</td>
</tr>
<tr>
<td>- Allow time within the daily routine for downtime (stretching, circle time activities);</td>
</tr>
<tr>
<td>- Reward positive behaviours.</td>
</tr>
</tbody>
</table>

**Figure 17**: Strategy Resource 7 - Practices to Support Consistency and Routine.
Inquiry Based Learning

The research site has recently introduced Inquiry Based Learning (IBL) across the primary section of their school. The leadership team along with IBL experts developed a two-year learning framework drawn from the Australian Curriculum. This incorporates the general capabilities and cross curriculum priorities whilst guiding classroom teachers to implement inquiry methodology in a sustainable way. All primary school staff have undergone extensive professional learning and are working together to implement the Australian Curriculum through IBL. One teacher shares:

*We are seeing high levels of student engagement and a reduction in FASD behaviours within the classroom.*

Another teacher suggests:

*When students are able to learn about their environment, things that have meaning to them and their experiences they are engaged and interested in learning.*
A further teacher commented:

*Within my classroom I have a table of items relating to the term topic that students are able to touch, play with and examine. I think that IBL allows the students to make connections within their learning.*

Teachers at the research site suggested that IBL allows the students to take responsibility of their learning:

*It is hands on and student centred. As teachers we are not at the front of the room presenting information. The students get to investigate, research and then share what they discover.*

Much of the research involving classroom strategies and practice in relation to students presenting with FASD focus on one area, or one common or significant topic such as behavioural issues or executive functioning. The staff at the research site believe that IBL allows them to approach these areas of difficulties holistically whilst also meeting the Australian Curriculum standards.

One teacher shared how the class was researching the waterways in their area. The students were taken on an excursion, accessed books and information from the internet
and then produced posters with environmental messages which were then displayed around their community.

*It was exciting for the students and their families to see the students work on display. It was a moment of success for both parents and their children.*

When discussing IBL, teachers acknowledged that students were able to work at their own pace, use their strengths and work in teams or as individuals. This allowed students to develop differing skills, scaffold learning and connect their learning to everyday life. One teacher expressed that IBL is an approach that ‘*combines academic work with real life, real world learning*’. Another observes:

*When we were undertaking our training someone said that IBL is based on ‘Tell me and I will forget. Show me and I will remember. Involve me and I will understand. This is our daily approach to supporting our students with FASD. We have learnt that students with FASD learn best and are more engaged when they are working with concrete objects, things that they can relate to and when lessons involve skill or knowledge they can connect to.*

When discussing the implementation of IBL within the research site, many teachers believed that IBL is a powerful pedagogy which supports students to make meaning
from what they are investigating whilst also promoting curiosity amongst students. One teacher shares:

*IBL allows teachers to scaffold and guide student learning, whilst also supporting students to develop independent investigation skills.*

Another teacher explains:

*Within my classroom, IBL supports the strengths of all students. I am finding that the students with FASD are engaged with their learning and interact more with their peers, especially when they are discussing their personal experiences. An example is our Waterways project. The students are sharing what they know about the area, why it is important to maintain the waterways and they are working together to develop their community posters.*

Through classroom observations of IBL lessons, it was apparent that students were extending their knowledge whilst developing transferable skills such as problem solving, communication and working as a part of a team. The table below (Figure 18) was co-developed with the participants and presents their approach to curriculum design and delivery and as a resource for teachers.
**Practices to Inform Inclusive Curriculum Design and Delivery**

- Use inquiry based learning to promote engagement;
- Focus curriculum on the known: where students can learn about their community and environment;
- Set up displays so that students are able to touch, examine and share the items;
- Provide lessons that are hands on and use concrete materials;
- Provide opportunities for students to gain knowledge they can relate to;
- Allow students to give back to their community.

**Figure 18:** Strategy Resource 8 - Practices to Inform Curriculum Design and Delivery.

Distinctively, with limited research about the Australian context, this school has developed an innovative approach which implement the many important strategies that must be applied for learning success in the context of FASD. The case study presented here reveals it is possible to bring together the many competing pressures of the Australian school curriculum and through a thoughtful and integrated set of tools and practice begin to create a learning environment such as Inquiry Based Learning, which truly supports the learning strengths and styles of students presenting with FASD.

**Discussion**

This chapter presented the emerging themes from data collected at one Australian school throughout one academic year. Overall, eight themes were identified which represent positive and effective practice for the inclusion and teaching of students prenatally exposed to alcohol. The emerging themes were identified through classroom
observations, semi structured interviews with classroom teachers and Yarning Circles
with parents and caregivers of the school community. The themes identified were:

- Supporting Inclusion
- Executive Function
- Retaining Information
- Sensory Processing Challenges
- Classroom Culture
- Transference of Learning
- Consistency and Routine
- Inquiry Based Learning

The general descriptions emerging on each theme is revealing in themselves. They are
outlined here to represent the experiences of both the classroom teachers and parents
and caregivers in investigating the teaching strategies required to achieve successful
inclusion of students presenting with FASD.

The data arranged under the eight themes enable a new set of resources to be developed
for Australian teachers. The eight sets of practices reported in this chapter reflect the
trials, successes and challenges faced by the teachers and families within this
community. Each set of practices reveals new approaches to teaching and learning that
can be applied to a wide range of educational contexts and importantly for settings that
specifically work to address the learning needs of children and young people with
FASD. The data emerge through the authentic voice of practitioners and community.
The findings explicitly identify the need for deep knowledge of FASD, strong policy
and system support for teachers, students and families and for professional learning which enables students with FASD to successfully move from isolation to inclusion.

Individually and together the themes examined in this inquiry, provide new insights into the experiences of teaching young people with FASD, working with student’s families, teachers and communities. The data set presented here demonstrates the critical importance of the relationship between students, teachers, parents and care-givers and communities for successful learning. It is equally significant and revealing that the collective knowledge reported here and the relationships between the various thematic findings, including the strategies which are reported, are improved when they are explicitly practised and interconnected to support positive educational outcomes for children and young people with FASD.

The Indigenist constructivist qualitative paradigm applied in this study is also one of the key outcomes of the research. It enables the various strengths and commitments of qualitative, practitioner focused research, to give voice to teachers’, families’ and students’ experiences and to respect Indigenous knowledge and culture. The following chapter brings these elements together in order to illuminate these relationships and connections and presents new recommendations for improvement of the educational experience and outcomes of students with FASD.
This research sought to investigate the classroom practices that teachers and other education professionals apply to successfully support Australian students presenting with FASD. In pursuing that proposition, it was found that through advancing classroom teachers’ professional knowledge in relation to the unique and complex learning challenges faced by children and young people with FASD, educational teams can be equipped with the resources and knowledge to adopt appropriate pedagogical practice with the aim of providing a learning environment to better suit the individual challenges faced by students with FASD. It was also found that when teachers have sound knowledge and are supported in collaborative teams which include parents and caregivers, they are better able to design curriculum which is inclusive of students with FASD, and so support learning of all students.

The findings of this research suggest a new theory which is designed to enable and improve the learning of students presenting with FASD. This theory proposes that FASD students learn in constructive inclusive environments, where their needs are understood, acknowledged and are the basis for curriculum design, development and decision making. This proposal is established from the analysis of the rich data and is framed around the principles and practices of inclusivity which strive to meet the learning needs of all students. The significance of this research is the new knowledge generated in a number of key areas.
Firstly, this qualitative study aimed at investigating, understanding and improving the teaching and educational journey for both Australian students presenting with FASD and their teachers. The data provide rich description and insights. This thesis, for the first time gives voice to the participants who bring critical and multiple perspectives and provides a comprehensive reporting of the experiences of teachers and community members in an Australian school.

In a national educational context, in which little is known, readily available or taught about teaching students with FASD, the research brings together a comprehensive body of literature related to FASD, and identifies the complexities, challenges and many gaps in knowledge associated with working with students with FASD. Significantly, the study is framed to address many of these gaps in existing research by giving voice to those involved in the teaching of students with FASD. It provides a detailed account of lived experience of educators parents and caregivers of students with FASD and outlines an integrated approach to improve classroom practice. This includes the identification and development of a range of tools, often generated by the teachers and families in the face of a lack of organised and accessible resources. These tools can be applied to classroom pedagogy and school-community relationships to support learning for students with FASD. In addition, the findings are clear that due to a lack of systematic research and organised professional learning within education departments throughout Australia, teachers are taking local responsibility to lead their own learning. However, this is arguably an irresponsible way to build successful learning outcomes for teachers and students.
Further, the research identifies the need to connect these strategies through a holistic approach to practice where various strategies are both interrelated and flexible. To do this, the findings of this study, including the resource tool kits which emerge from the analysis, come together in the Framework for Achieving Inclusion of Australian Students with FASD explained in this chapter. This Framework allows for situated and responsive classroom practice and student learning. Yet another outcome is that the rich data presented here powerfully constitutes comprehensive advice and a call for courage from policy makers, governments and systems to adopt policies so that students with FASD can be respected and participate constructively in Australian education and beyond.

The final key outcome and of at least equal importance with all other outcomes of this project, is the effective application of the methodology, framed as an Indigenist constructivist qualitative paradigm. This approach ventured into new territory and enabled respectful and authentic research data to be gathered with Aboriginal families as well as with non-Aboriginal people in the community. In a context in which research on Aboriginal people is far too prevalent, and researchers are at pains to be accepted and be provided with access to information, this paradigm, while unique in many elements, lays a foundation for further opportunities for partnerships between Aboriginal and non-Aboriginal researchers and participants to work together.

The experience of the application of an Indigenist method, by an Aboriginal researcher from another community, offers insight and new learning for those who will wish to work in similar ways. By acknowledging and respecting culture, research systems and
approaches, the strategies employed here are applicable across Australia, where Aboriginal and non-Aboriginal people live and work, in small and large communities, whether urban or rural. Throughout this research, the researcher ensured relational accountability and knowing traditional systems of knowledge are built on the relationships we have, not just with people or objects but also with our surroundings, ideas, concepts and everything around us. As an Aboriginal woman and researcher, it was important to know and understand my personal accountability for all relations, in research practice and professional writing. Giving primary acknowledgment at all times to my relationship with Country, Elders and community, building relationships was the foundation of this research and these relationships were built in a very strong, sensitive and respectful manner. This achievement is significant in the Australian context, as too often respecting culture and being accepted by those who are participants in the research, are not seen as a fundamental principle to be established before any data collection begins. This is particularly true of the history of research within Aboriginal communities worldwide.

My Aboriginality could have been both a challenge and an opportunity. I was an outsider to all who lived in the school community at the centre of this research. Regardless of my background, and with full consideration of it, I was obliged by my cultural experience and respect for others, to attend to my relationship with the community. This is true for researchers in very large or very small communities. My commitment to respect, demanded that I construct a research paradigm which respected all. The Indigenist constructivist qualitative paradigm works to straddle and respect
Aboriginal and western methods and the strategies applied before data collection were critical to the method, not simply preparation for the methodology.

As the literature acknowledged, in 2013 the Australian Government announced they would commit $20 million over a four-year period for a National FASD Action Plan which contained five key action areas (Australian Government Department of Health 2013, p. 2). Within these five key action areas it was suggested that ‘developing guidelines for educators for how to teach people with FASD’ was required. Further it was proposed that producing the teaching guidelines would require oversight by a project officer to prepare the guidelines and a consultation process on how to incorporate the teaching strategies into the curriculum. The action plan suggested that this process should be piloted by one state government, supported by the Australian Department of Education, Employment and Work Place Relations, ‘before being expanded into other jurisdictions’ (Foundation for Alcohol Research and Education 2012, p. 37). Disappointingly, as of August 2016, this recommendation has not yet been implemented, leaving students with FASD, teachers, parents and caregivers to navigate their own way through the multifaceted complexities of educational resources required to ensure their academic, social and emotional development is supported within the education arena.

Within this context, this research is even more important in providing support for students presenting with FASD, their teachers and their families. The development of the inclusive framework, explained here, provides strategic direction and reports
principles and practices to inform and guide future policy development relating to the
effective approaches to improving the academic journey of children and young people
with FASD and their families.

The research also reports that FASD and the associated primary conditions caused by
prenatal exposure to alcohol was first publicly documented within Australia over three
decades ago. This has left many questions unanswered about why it has been left to
parents, and community to form support groups such as the Russell Family Fetal
Alcohol Disorders Association and the National Organisation for Fetal Alcohol
Spectrum Disorders. It is these data that highlight Australia’s lack of a national
approach to FASD and a paucity of research policy and strategy in relation to the
educational needs of those affected by prenatal exposure to alcohol. Without national
research policy, an education strategic plan, teachers will continue to be ill prepared and
unable to effectively meet the needs of students presenting with FASD.

This research is reported through a case study conducted over two years with data
collected throughout three extended visits to the site across one academic school year.
Data collection methods included literature and document analysis, semi-structured
interviews, classroom observations, Yarning Circles and focus groups with parents and
caregivers. The relationship built over time with the community served to mitigate the
potential for researcher biased and any impact of Hawthorne effect on the authenticity
of the data collected. A distinctive feature of this research is that it has been conducted
by an Aboriginal researcher within a predominately Aboriginal educational context. In
response, the study has deliberately developed and applied a respectful Indigenist constructivist qualitative paradigm. Arguably, this may have enabled a richer data collection process, particularly in relation to Aboriginal participants, because it pays attention to culturally appropriate ethical principles and protocols of engagement.

The data collected revealed eight key themes discussed in detail in the previous chapter: supporting inclusion, executive functioning, retaining information, sensory processing challenges, classroom culture, transference of learning, consistency and routine, and inquiry based learning. It is the interrelationship of these eight themes which informs the six interrelated actions within the Framework for Achieving Inclusion of Australian Students with FASD which is presented here.

This chapter outlines the application of a new theory shaped by inclusive curriculum as central to positive learning outcomes for children and young people with FASD. The chapter also describes the connected Framework for Achieving Inclusion of Australian Students with FASD, designed to address the gaps in both the current Australian policy and research and the knowledge required by education practitioners. This Framework expands on the international knowledge and research of FASD and has the capacity for application to many educational settings within Australia and internationally. The Framework for Achieving Inclusion of Students with FASD is not prescriptive, but rather critically responsive to context and the complex learning needs of Australian students with FASD. The Framework is relevant for all FASD learners, keeping in mind FASD crosses all racial, cultural and socio-economic groups throughout Australia.
In this way, the Framework makes a distinctive new contribution to the field and is a highly practical resource for teachers in all Australian schools.

The Framework for Achieving Inclusion of Australian Students with FASD is positioned around six actions, with each of the six interrelated, as a foundation for maximising outcomes for those students presenting with FASD. Adding to this, the Framework for Achieving Inclusion of Australian Students with FASD illuminates the importance of the FASD student as central to the improvement of educational outcomes and emphasises a “no blame, no shame” approach. The Framework, illustrated below, strongly argues for systematic leadership from government through policy and actions which provide new and improved practices and principles for the respectful inclusion of students presenting with FASD and their families.
The six interrelated principles presented within the framework, the key findings of this research, are discussed and reflected below in Figure 19.

**Figure 19:** Framework for Achieving Inclusion of Australian Students with FASD.
Collaboration and Communication

Through the voices of parents and teachers who tentatively navigate their way through the intertwined educational, social and emotional needs of Australian students with FASD, it was accentuated that a paradigm shift in the vital role communication and collaboration between parents, educational staff and professional support personnel plays is essential. Parents, classroom teachers and other community members, report that strong two-way communication and collaboration are essential in providing classroom teachers with a greater insight to the complexities faced by students with FASD in the education arena. Through continued informative communication and collaboration with parents and professional education support staff, classroom teachers will be better equipped to provide an inclusive, supportive and applicable pedagogy.

The Framework for Achieving Inclusion of Australian Students with FASD insists on collaboration and communication fostered by classroom teachers, parents and education support personnel who must demonstrate interpersonal and communication skills that reflect trust and respect which follows through to their interactions, behaviours and positive attitudes towards all students, including those presenting with a FASD.

No Blame, No Shame

Medical practitioners, researchers, parents and teachers agree that the current uncertainty regarding the actual FASD prevalence rates within Australia may be linked
to the stigma attached to the nature of the disorder. As with Australian-led FASD community support organisations, the community contributing to this research adopted a “no blame, no shame” philosophy and practice ensuring all students, including those with FASD, have equitable and appropriate resources. Adopting this ethos more widely, in both teacher professional learning, school practices and across government, will provide the basis for a safe and inclusive educational environment and fosters a positive attitude towards achieving inclusion for students and their families.

The Framework for Achieving Inclusion of Australian Students with FASD is explicit in recommending that the ethos of no blame, no shame is an essential commitment to improving educational experience and outcomes for students with FASD.

**Knowledge of FASD**

The research found that there is a fundamental need for teachers, parents and communities to have concentrated knowledge with regards to the nature of FASD as well as the clearly identified difficulties faced by individuals affected by FASD. It was revealed that currently, within Australian education departments, there is an absence of accessible appropriate resources and research to guide educators in their quest of ensuring ethical and appropriate situated practice for students prenatally exposed to alcohol. Through this in-depth knowledge and an understanding of the complexities faced by students presenting with FASD, educational staff will have the more appropriate and necessary information, and therefore be responsive to the social, emotional and academic needs of students with FASD.
Drawing on the classroom teachers lived experience of working with parents and students affected by FASD the research documented and reported their struggles, success, trials and those successful practices that contribute to the Framework. In so doing, these practitioners, through the Framework, have created a blueprint for Australian education departments to build on, apply and share nationally as a guide to successful practice for teachers working with students on the FASD spectrum. Through the contributions of the participants, it was revealed that, although Australia has no official prevalence rates, by standing together, building knowledge and supporting identified students with FASD, this one community exemplifies proactively working towards minimising secondary conditions such as mental health issues through their reflective inclusive classroom practice.

It is clear that this research demonstrates the need for greater knowledge for all teachers and the research recommends that additional rigorous research is commissioned and resources committed to building deeper understanding of FASD for teachers and their communities across different demographics and locations in Australia.

**Curriculum Design, Decision Making and Delivery**

Through the study of participants’ lived experiences it has been revealed that curriculum design and delivery cannot operate in isolation but must be fully connected to the needs of the students and their community.
It was evident that, when teachers designed curriculum around students’ strengths and real life experiences, learning was enhanced. This approach promotes independence, social development, lifelong learning, resilience and adaptability in children and young people with FASD. The Principles for Practice Resources proposed in response to each of the key themes identified in the data, provide teachers with eight sets of practical instructions to assist innovative and effective curriculum decision making.

This Framework for Achieving Inclusion of Australian Students with FASD highlights the importance of purposeful and inclusive curriculum design, decision making and delivery. The research confidently recommends that teachers are provided with effective resources to enable them to become the expert decision makers in curriculum design and delivery which is responsive to the learning needs of students with a FASD.

**Successful Inclusivity of FASD Learners**

Armed with sound knowledge of the nature of Fetal Alcohol Spectrum Disorders and in the context of a no blame, no shame culture, teachers begin to be well equipped to develop inclusive classrooms for students with FASD. With this background, it is critical that teachers get to know each student as a unique person with a complex range of abilities and needs. Knowing students and with access to relevant professional education enables the teacher to create an engaging curriculum for all students to experience success. This commences with the specific understanding that every student with FASD will respond to every situation in a unique way on any occasion. Adding to
this, building positive relationships, getting to know students as individual learners, their strengths and capabilities and whilst working collaboratively with parents to share knowledge, provides further essential background for successful teaching.

In the classroom, teachers need to plan a curriculum that is inclusive and integrated, have an inventory of interrelated strategies and approaches on which to draw, develop routine and rules for a sense of security within the classroom, pace lessons appropriately and investigate students’ virtual school bags for alternate ideas. Above all, knowing the student with FASD requires teachers to start each lesson, each day, anew. It is essential not to carry any difficulties or issues from a previous session.

The Framework for Achieving Inclusion of Australian Students with FASD indicates the fundamental practice of knowing students as individuals and responding appropriately. It is recommended that teachers are provided with the appropriate professional knowledge so that they are empowered to make appropriate decisions about effective pedagogy to scaffold the learning of each student with a FASD.

**System and Structural Change for Respectful Inclusion**

The final interconnecting practice to ensure children and young people with FASD and their families are afforded the respectful inclusion warranted, is the need for fully informed and principled educational systems and structures which drive inclusion and support successful student learning. The data revealed that current Australian education
policy and practices across systems, departments of education, and non-government school systems have yet to put in place support mechanisms to ensure the inclusivity principles and actions can be applied to the unique and complex learning needs of Australian students with FASD. This is a responsibility of all educational facilities across Australia. In addition, the research found that Australian teachers working alongside students presenting with FASD and their families are currently working in an information void. Without information, professional skills and capabilities to develop and deliver classroom rich curriculum and programs inclusive of the learning needs of children and young people with FASD, FASD students will continue to be hindered in the education arena and not cultivate a passion for learning as matched by their peers.

The Framework for Achieving Inclusion of Australian Students with FASD draws attention to the importance of educational systems and structures to be developed in order to provide national guidelines and policies to support educational staff in developing rich curriculum programs inclusive of the unique complex challenges faced by students with FASD. Currently within Australia, the Australian government mandates that every school is to have student engagement policies that articulate the expectation of the school community in regards to strategies that address bullying, school attendance and behaviour. The data from this research indicates the need for clear expectations of respectful and informed inclusivity practices and values that should be incorporated within this student engagement policy and which complement the Disability Standards for Education 2005. In the 2012 Review of Disability Standards for Education, it was identified that the development of a culture of inclusion, in which diversity is valued, is crucial, not simply the implementation of an inclusive curriculum (Department of Education, Employment and Workplace Relations 2012).
In supporting the culture of inclusion, The Framework for Achieving Inclusion of Australian Students with FASD also stresses the need for all teachers to have appropriate knowledge of FASD. This includes Australian Universities making certain that pre-service teachers enter the workforce armed with the knowledge that FASD exists along with an understanding of the unique and intertwined learning difficulties faced by Australian children and young people with FASD. Pre-service and professional teachers should also be aware that although Australian prevalence rates are currently unknown, children and young people with FASD will be in classrooms, both diagnosed and undiagnosed. Although some educational staff may view inclusivity as adding to their workload, the classroom teachers who participated within this research and who are taking a leadership role in meeting the complex learning needs of students with FASD highlighted how inclusive practice, a fundamental right to all students, is easily actioned through viewing the Australian curriculum through an inclusive differentiated lens.

**Conclusion: Policy, Practice and Actions for Inclusion**

This research gives voice to students with FASD, their teachers, communities and families, who to date, are under recognised, under resourced and largely disregarded in their quest for inclusive education that meets their unique and complex learning needs. It challenges systems to undertake further research for a comprehensive review of policy and practice at all levels of education to ensure the rights of all students are upheld. The Framework for Achieving Inclusion of Australian Students with FASD has illuminated the challenges and identified the actions required to fill the significant void in educational support, policy and practice that are urgently required to empower
Australian students presenting with FASD, their families, communities and education professionals.
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