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**The Introduction of Montessori Teaching and Learning Practices in an Early
Childhood Classroom in a Remote Indigenous School.**

**Submitted by
Catherine Holmes
B. Ed. (The University of Notre Dame Australia)**

**A Dissertation in Fulfillment of the Requirement of the Degree of
Master of Education**

**School of Education
The University of Notre Dame Australia
Fremantle Campus**

**Supervisors:
Associate Professor Shane Lavery: The University of Notre Dame Australia
Dr. Glenda Cain: The University of Notre Dame Australia**

September 2016

Statement of Sources

This thesis contains no material published elsewhere or extracted in whole or in part from a thesis by which I have qualified for or been awarded another degree or diploma. No other person's work has been used without due acknowledgement in the main text of the thesis. This thesis has not been submitted for the award of any degree or diploma in any other tertiary institution. All research procedures in the thesis received approval of the Human Research Ethics Committee at The University of Notre Dame, Australia.

Signed: Date:

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I dedicate this journey of learning to the students and families from Kiwirrkurra Remote Community and Papulankutja Remote Community. The experiences I have shared with the families in these two communities have enriched my life beyond words.

Abstract

The purpose of this research was to observe and describe the effect of Montessori pedagogy in a remote Aboriginal Early Childhood program to ascertain whether this alternative approach to education provides a more culturally appropriate practice than past methods. The significance of the study lies in the need to "close the gap" (Department of Premier & Cabinet [DPMC], 2016, p.1) between the achievement of Indigenous and non-Indigenous students. The study endeavours to describe the effect of Montessori pedagogy through the response of those most closely associated with Aboriginal education: students, parents, caregivers, community members and educational professionals.

Three dimensions of the context contributed to an understanding of this study. These three dimensions were: geographical setting, the Ngaanyatjarra Lands School Network and the Papulankutja Remote Community/Campus. These contextual dimensions outline the background, setting and environment where this study was undertaken.

The review of literature highlighted three topics, which formed the conceptual framework for this inquiry. These topics were: current policies and practices in Early Childhood education in Australia; current policies and practices in Aboriginal education; and principles and practices in Montessori pedagogy.

The theoretical framework for this study was located within the interpretive paradigm of qualitative research. Specifically, the interpretive lens underpinning this inquiry was that of phenomenology. The methodology used in the research was an individual case study that sought to explore the effect of Montessori pedagogy with remote Aboriginal Early Childhood students in the Papulankutja Remote Community. The individual case study utilised four methods of data collection: video recording and observational framework by the teacher-researcher; journal writing by the teacher-researcher; ten observational frameworks by the critical friend; and three one-on-one interviews with the informant. The method of data analysis for the qualitative data followed a format similar to that outlined by Miles and Huberman (1994): data collection, data reduction, data display and conclusion drawing. The data were coded

and analysed according to themes taken from the four specific research questions for this study.

The findings of this research are consistent with four themes: student response to Montessori pedagogy, student behaviour in response to Montessori pedagogy, language development within Montessori pedagogy, and community involvement within the early childhood classroom. The findings suggest that various fundamental characteristics of Montessori pedagogy align with traditional Aboriginal child rearing techniques such as autonomy and movement. In addition, Montessori teaching pedagogy provides Aboriginal and Islander Education Officers with a consistent collection of teaching activities and materials to work one-on-one with students in the home language (Ngaanyatjarra) before transitioning to Standard Australian English. The results of this research have the potential to inform future educational practices for Aboriginal students in remote communities.

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CHAPTER ONE

RESEARCH DEFINED

1.1 INTRODUCTION

Current teaching and learning practices in Aboriginal education are disadvantaging Aboriginal students compared with non-Aboriginal students (Department Premier & Cabinet [DPMC], 2016). Current data confirm that education targets set by DPMC have “expired unmet” (DPMC, 2016, p. 12) or have experienced “little change” (DPMC, 2016, p. 6). Despite copiousness amounts of human and financial resources, Aboriginal education providers are by-and-large failing to generate constructive change (Breadmore, 1986; DPMC, 2016; Ford, 2010; Osborne, 2013). A review of research on Aboriginal education suggests that no substantive advances have been made in Aboriginal education since 1948 (Australian Council of Education Research, 1948; DPMC, 2016; Hughes & Hughes, 2009; Malin & Maidment, 2003). Aboriginal students have been described as “fringe dwellers in the real estate of the classroom” (Price, 2012, p. 73). In particular, there are significant concerns in regard to Aboriginal education in remote Australia. Education programs in remote Australia may be culturally irrelevant. The disadvantage to Aboriginal students caused by current teaching and learning practices adopted in remote communities has prompted this study into the effectiveness of an alternative method of education, that of Montessori pedagogy.

In 2003, schooling among Aboriginal Australians was in a state of “widespread dissatisfaction” (Malin & Maidment, p. 90). In 2009, Aboriginal Education policy documents released by the Ministerial Council for Education, Early Childhood Development and Youth Affairs (MCEEDYA) stated that declarations had gone from commitments to generalities (Hughes & Hughes, 2009). Specific targets moved from “fix the problem in four years” in 1997 to “fix half the problem in ten years” in 2008 (Hughes & Hughes, 2009, p. 2).

Although recent evidence suggests that some advance has been made in “halving the gap” for Aboriginal students, it is concerning that little change in key areas has been recorded (Joe, 2011). “Halving the gap” or “closing the gap” refers to the distance between Aboriginal and non-Aboriginal Australians in life expectancy, infant

mortality, access to Early Childhood education in remote communities, school attendance, reading, writing, numeracy, Year 12 or equivalent attainment rates, and employment (DPMC, 2015, p. 5). In 2014, the then Prime Minister Tony Abbott stated, “There’s been very little improvement towards ‘halving the gap’ in reading, writing and numeracy” (DPMC, 2014, p. 1). He went on to further state, “Most closing the gap statements are not on track to be met” (DMPC, 2015, p. 3).

The Council of Australian Governments [COAG] (2009) defined the statement “closing the gap” or “halving the gap” as a “great national challenge, but also a great national opportunity to achieve lasting change and ensure that future generations of Indigenous Australians have all the opportunities enjoyed by other Australians to live full, healthy lives and achieve their potential” (p. 33). However, Price (2012) noted that educational professionals who are crafting current Aboriginal educational methods are “ill-informed about Aboriginal and Torres Strait Islander people which creates a vulnerability of vast dimensions” (p. 74). Specifically, regarding very remote Australia, Osborne (2013) stated:

Western philosophies that underpin mainstream Australian society and the broader education system are at odds with the axiologies, epistemologies, ontologies and cosmologies of Aboriginal and Torres Strait Islanders, particularly in the red dirt contexts of very remote communities (p. 5).

Given the present state of affairs, alternative approaches to Aboriginal education in remote Early Childhood programs must be considered. Such alternative approaches need to be well documented and grounded in evidence-based research.

Montessori pedagogy is an alternative method of education to current practices in many schools. This alternative method is an internationally recognised educational system that “aims to provide children and young people, from birth to maturity, with learning environments designed to support the development of social, intellectual, and ethical independence” (Montessori Australia Foundation, 2011, p. 3). Montessori pedagogy is collated from over one hundred years of experience in diverse cultural settings (Feez, 2010) and provides a culturally sensitive pedagogy (Brown & Steele, 2015). A key foundation of Montessori teaching and learning practice is that children are able to freely choose their own learning (Cossentino, 2005; Cossentino, 2010; Montessori, 1966; Johnson, 2016). Montessori pedagogy is based on the premise that

student-selected learning approaches provide students with the opportunity to be independent, autonomous and self-disciplined (Cossentino, 2010; Danner & Fowler, 2015; Johnson, 2016). The teaching practice is “characterised by multi-age classrooms, a special set of educational materials, student-chosen work in time blocks, a collaborative environment with student mentors and individual and small group instruction in academic and social skills” (Lillard, 2005, p. 1).

The Montessori National Curriculum is the key curriculum document in Montessori pedagogy in Australia. In 2011, the Australian Curriculum, Assessment and Reporting Authority (ACARA) approved the Montessori National Curriculum as an alternative method of education. Montessori teachers are required to understand both child developmental theory and the sequence of planned lessons that construct the Montessori curriculum (Cossentino, 2007). Montessori pedagogy has the potential to provide a more culturally appropriate method of education in a remote Aboriginal Early Childhood program. From the teacher-researcher’s experience, Aboriginal child rearing techniques align with Montessori methodology more than traditional teaching methodologies. A more culturally appropriate method of education has the potential to provide a more realistic opportunity to close the gap between Aboriginal and non-Aboriginal students (Breadmore, 1986).

1.2 PERSONAL STATEMENT

The motivation for this research stems from the researcher’s personal interest and involvement in remote Aboriginal education. The researcher first became interested in remote Aboriginal education when she worked in Kiwirrkurra Remote Community (RC), Western Australia between 2010 and 2012. Kiwirrkurra RC is the second most remote community in the world and is strongly traditional in Aboriginal culture. During her time in Kiwirrkurra RC, the researcher came to the belief that the system mandated method of education being used was not culturally appropriate. Through conversations with colleagues and by researching alternative methods of education, the researcher realised that Montessori pedagogy might provide a more culturally appropriate method of education in a remote context. This study was undertaken to provide evidence-based research in Montessori pedagogy within a remote Aboriginal Early Childhood program.

1.3 AIM OF THE RESEARCH

This study aims to describe the effect of Montessori pedagogy within a remote Aboriginal Early Childhood program. Underpinning the study is the belief that Aboriginal children must be provided with every opportunity to reach, or exceed, minimum standards in literacy and numeracy. The Closing the Gap Report 2016 stated that the majority of Indigenous children in remote locations are not reaching minimum standards (DPMC, 2016). This research seeks to investigate an alternative educational approach, Montessori pedagogy, in a remote Aboriginal Early Childhood context.

1.4 PURPOSE OF THE RESEARCH

The purpose of this research was to observe and describe the effect of Montessori pedagogy in a remote Aboriginal Early Childhood program to ascertain whether this alternative approach to education provides a more culturally appropriate practice than past methods. The Aboriginal Education Plan for Western Australian Public Schools 2011-2014 highlights, “We must develop new approaches to address the diverse needs of Aboriginal students in urban, regional and remote areas” (Department of Education Western Australia, 2011, p. 2). The then Western Australian Minister for Education, Dr. Elizabeth Constable MLA, emphasised the need to “develop strategies to close the gap between the achievements of Aboriginal and non-Aboriginal students” (Department of Education Western Australia, 2012, p. 3). One possible strategy to “close the gap” could be Montessori pedagogy.

1.5 RESEARCH QUESTIONS

The general research question for the study is: What is the effect of Montessori pedagogy on Aboriginal students in a remote Early Childhood program?

The four specific research questions to be addressed are:

1. In what ways do Aboriginal students respond to Montessori pedagogy within a remote Early Childhood program?
2. In what ways has Montessori pedagogy impacted on student behaviour within a remote Aboriginal Early Childhood program?
3. In what ways has Montessori pedagogy impacted on language learning and development within a remote Aboriginal Early Childhood program?
4. In what ways has Montessori pedagogy engaged community members to interact within a remote Aboriginal Early Childhood program?

1.6 RESEARCH DESIGN

The research was conducted through the use of an individual case study (Berg, 2007). The individual case study method aims to collect information about a specific person, group or environment to meritoriously recognise how the subject functions (Berg, 2007). The individual case study chosen was the Early Childhood program in the Ngaanyatjarra Lands School Network, Papulankutja Campus. Four methods of data collection were used in this study:

- a) Video recording and observational framework by the teacher-researcher
- b) Journal writing by the teacher-researcher
- c) Review of the ten observation frameworks by the critical friend
- d) Review of the three one-on-one interviews with the informant.

During the data collection period the researcher video recorded the Montessori pedagogy program three times a week for one to two hours at randomly selected times. Video recording aimed to provide hard evidence of the observations. The teacher-researcher used a journal to record observations of key events that occurred serendipitously and to dispassionately describe day-to-day occurrences in the remote Aboriginal Early Childhood program.

A critical friend was engaged to observe the remote Aboriginal Early Childhood class. The critical friend recorded two forms of data: general observational framework (Appendix B) and an individual observational framework (Appendix C). Observations occurred twice every three weeks during the data collection period. In total, the critical friend completed five general observation frameworks and five individual observation frameworks. The critical friend had over 30 years' teaching experience, at least 8 years of which working with Aboriginal students, but no previous affiliation or experience with Montessori pedagogy.

An impact that related to the design of the study was the interpretation and translation of student speech and behaviour. All students in the population are of Aboriginal descent and use English as an additional third or fourth language. A bilingual Ngaanyatjarra person was engaged as the informant to assist with interpretation and translation. With the permission of the student's parents/caregivers, the informant observed the classroom and responded to inquiries from the teacher-

researcher. The informant provided clarity when responses took an unexpected turn. The informant attended the classroom for two hours, three times over the course of the data collection period, as well as three video-recorded one-on-one interviews with the teacher-researcher, and provided insight into student and community life and the effects of Montessori pedagogy on the Early Childhood student cohort.

1.7 SIGNIFICANCE

The significance of the study lies in the need to close the gap between Aboriginal and non-Aboriginal students. The study endeavours to describe the effect of Montessori pedagogy through the response of those most closely associated with Aboriginal education: students, parents and caregivers, community members and education professionals. Before commencing the study, the teacher-researcher consulted the Ngaanyatjarra Lands School Network Leadership Team in order to obtain permission to conduct the study within a Department of Education Western Australia school; subsequently, the Papulankutja Campus Early Childhood program trialled Montessori pedagogy.

1.8 LIMITATIONS OF THE STUDY

There were three limitations to the study. The first limitation was that of potential personal bias as the teacher-researcher is Montessori trained. Three methods were used to address the issue of personal bias. These were: the use of the verbatim principle, bracketing and triangulation. These methods are detailed in Chapter Four: Design of the Research.

The second limitation was the sample size of 17 students. This small sample size potentially limits the generalisability of the study to a wider Australian population. However, it does not hinder the value of the research for education audiences such as the Ngaanyatjarra Lands School Network and other remote Aboriginal contexts. The sample size was representative of the majority of the remote Aboriginal Early Childhood program population in the Ngaanyatjarra Lands School Network. Furthermore, a pilot of the study was conducted in the Ngaanyatjarra Lands School Network, Kiwirrkurra Campus Early Childhood program in 2011 and 2012. The Kiwirrkurra Campus pilot provided a basis for the research.

The third limitation was that Montessori pedagogy was singularly considered as an alternative method of education. The teacher-researcher acknowledges that Aboriginal education is a complex issue. Aboriginal education cannot be resolved by the provision of a singular alternative teaching methodology. This research provides a description of what worked in the classroom.

1.9 DEFINITIONS

The following terms are defined according to their usage in the present research study.

1.9.1 Aboriginal person

An Aboriginal person is “someone who is of Aboriginal descent, and identifies as being Aboriginal and is accepted as such by an Aboriginal community” (Harrison, 2012, p. 193).

1.9.2 Critical friend

The critical friend in the research was an educator with over thirty years’ experience in both remote and mainstream education. The critical friend was not trained by, or had any affiliation with, Montessori pedagogy.

1.9.3 Closing the gap

The Council of Australian Governments (COAG) “committed all Australian governments collectively to overcoming Indigenous disadvantage” (2009, p. 33). This study focuses on closing the gap in education.

1.9.4 Indigenous Australian

The term Indigenous Australian refers to “both Aboriginal people and Torres Strait Islander people” (Harrison, 2012, p. 193).

1.9.5 Early Childhood education

The Department of Education, Employment and Workplace Relations (DEEWR) has defined Early Childhood education as “long day care, occasional care, family day care, multi-purpose Aboriginal children’s services, preschools and

kindergartens, playgroups, crèches, early intervention settings and similar services” for children from birth to five (DEEWR, 2009).

1.9.6 Informant

In this study the informant was a Ngaanyatjarra person, native speaker and Aboriginal Liaison Officer employed by the Ngaanyatjarra Lands School Network. The informant was not trained by, nor had any affiliation with, Montessori pedagogy.

1.9.7 Montessori pedagogy

Montessori pedagogy is an alternative method of education and that comprises both learning environment and the learning materials. Montessori learning environments are defined as being “prepared to allow children to be socially and intellectually independent. Montessori learning materials are designed to capture children’s interest and attention and to encourage independent use” (Feez, 2010, p. 16).

1.9.8 Ngaanyatjarra Lands School Network

Ngaanyatjarra Lands School Network comprises nine remote Aboriginal communities in the central western desert in Western Australia. All communities in the area have the highest remote scaling by the Australian Bureau of Statistics [ABS].

1.9.9 Teacher-researcher

The teacher-researcher has worked in the Ngaanyatjarra Lands School Network since 2011. She holds a Bachelor of Education, majoring in Early Childhood education, and has an Association Montessori International (AMI) Diploma of Primary (2.5 to 6+ years) from Perugia Training Centre, Italy.

1.10 CHAPTER SUMMARIES

The structure of the thesis consists of seven chapters. Table 1.1 provides an overview of this structure.

Table 1.1

Overview of the Thesis Structure

Chapter One	Research defined
Chapter Two	Context of the research
Chapter Three	Review of literature
Chapter Four	Design of the research
Chapter Five	Results of the research
Chapter Six	Discussion
Chapter Seven	Conclusion

1.9.1 Chapter outlines

Chapter One, “Research defined”, presents the purpose, motivation and background of the research. The general research question is identified along with four specific research questions. The chapter presents a personal statement from the researcher, the research design, significance of the research and limitations of the research.

Chapter Two, “Context of the research”, presents three dimensions of context that contribute to the understanding of the research into Montessori pedagogy in a remote Aboriginal Early Childhood program. These are: geographical setting; Ngaanyatjarra Lands School Network; and Papulankutja Remote Community and Campus.

Chapter Three, “Review of literature”, presents three areas of review relevant to the study. These are: a review of current policies and practices in Early Childhood education in Australia; a review of the current polices in Aboriginal education and; a review of Montessori pedagogy. The final section indicates how the literature review highlights the research.

Chapter Four, “Design of the research” maps out the research approach that was utilised to investigate the inquiry. The theoretical framework drew its epistemology from a qualitative foundation, utilising interpretivism as its theoretical perspective. Specifically, the interpretive lens that the inquiry utilised was that of phenomenology.

The methodology employed in the research was an individual case study that sought to explore the effect of Montessori pedagogy within a remote Aboriginal Early Childhood program. The cohort participants comprised of 17 students. The method of data collection and management are explained. Issues of trustworthiness are considered and ratified and important ethical considerations for the research are discussed.

Chapter Five, “Presentation of research findings”, is presented in four main parts. These are: student response, student behaviour, language development and community involvement. These sections examine the findings from the data of the teacher-researcher, critical friend and informant. The findings from the data collection are summarised from interviews, a video recording and written records.

Chapter Six, “Discussion”, presents an analysis of the results of the research and addresses the four specific research questions. The chapter discusses the student response, student behaviour, language development and community involvement in relation to Montessori pedagogy in a remote Aboriginal Early Childhood program.

Chapter Seven, “Conclusion”, reviews the results of the research project in relation to the stated purpose of the study. Following a summary of research design the general research question is addressed. A conclusion to the research is then presented and an outline of possible contributions the research makes to scholarly debate. Lastly, implications for stakeholders of Montessori pedagogy in a remote Aboriginal Early Childhood program are addressed along with suggestions for further research.

CHAPTER TWO

CONTEXT OF THE RESEARCH

2.1 INTRODUCTION

The purpose of the research was to observe and describe the effect of Montessori pedagogy in a remote Aboriginal Early Childhood program. The Aboriginal students were selected from the Ngaanyatjarra Lands School Network Papulankutja Campus, Western Australia. Underpinning the research was the belief that Montessori pedagogy may provide remote Aboriginal students with an alternative and culturally relevant method of education. In this chapter, three dimensions of the context will be explored to develop an understanding of the environment in which the study took place. Context provides “a description and understanding of a person’s social environment or an organization’s political context [and] is essential for overall understanding of what is observed” (Patton, 1990, p. 49). The three relevant dimensions of the context of this study are: (a) geographical setting; (b) the Ngaanyatjarra Lands School Network; and (c) the Papulankutja Remote Community/ Campus. The geographical setting highlights the physical environment and the extreme remoteness of the Papulankutja Campus. The Ngaanyatjarra Lands School Network provides a background to the unique structure and history of the school network. The Ngaanyatjarra Lands School, Papulankutja Campus outlines the distinctive history and cultural background of the remote Aboriginal community where the study took place. The Papulankutja Early Childhood program participants are a very distinct group of Aboriginal students within the central western desert of Australia.

2.2 GEOGRAPHICAL SETTING

A large proportion of Australia is sparsely inhabited (Australian Human Rights Commission, 2008). In 2011 ABS recorded over 60,000 Indigenous Australians living in “very remote” Australia in 1,008 “very remote” communities (ABS, 2011b; Fordham, 2006). Within Australia over 250 Indigenous languages are spoken (ABS, 2011b).

Education for Aboriginal students in remote Australia faces many challenges. One of these challenges is limited access to education services, libraries, technological education and support (Fordham, 2006). Parents, caregivers and the wider community

are often limited in the way in which they can support their children in obtaining an education (Boulden, Hilson & Tyne, 2010). The Australian Early Development Index [AEDI] National Report 2012 (DEEWR, 2013) identified key developmental indicators that can be used to compare the development of Indigenous and non-Indigenous children in pre-school years. These indicators are: physical health and well-being, language and cognitive skills, social competence, emotional maturity, and communication and general knowledge domains (DEEWR, 2013). The findings of AEDI National Report 2012 concluded, “Indigenous children are more than twice as likely to be developmentally vulnerable than non-indigenous children” (DEEWR, 2013, p. 5). It is important that these findings be acknowledged within this research study, as they highlight the need to address the vulnerability of Indigenous children.

The second area that is significant to the study relates to the geographical setting described through the Accessibility/Remoteness Index of Australia [ARIA]. The Australian Bureau of Statistics [ABS] devised ARIA because of the increasing concern for people living in rural and remote areas of Australia (Commonwealth Department of Health and Aged Care, 2001). ABS defined remoteness based upon “the distance people must travel along a road network to get to service centres: areas where they can access goods, services and opportunities for social interaction” (ABS, 2001). The main aim of ARIA is to provide a national standard for remoteness (ABS, 2001). Figure 2.1 represents the current ABS remoteness structure (ABS, 2011a).

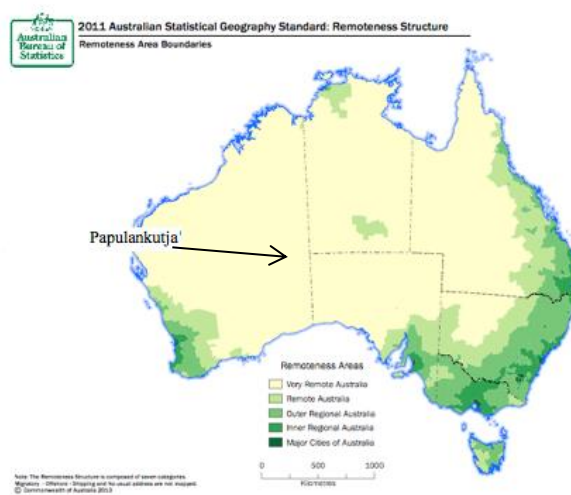


Figure 2.1. Remoteness Structure 2011. Retrieved from [http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/2B9F179C6CFA2431CA257B03000D7F21/\\$File/1270055005_2011_remoteness_structure_maps.pdf](http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/2B9F179C6CFA2431CA257B03000D7F21/$File/1270055005_2011_remoteness_structure_maps.pdf)

The ARIA score incorporates a classification system using five levels of remoteness as shown in Table 2.1.

Table 2.1

ARIA Classification levels of remoteness

<i>Level of remoteness</i>	<i>ARIA rating</i>	<i>Description of rating</i>
Highly accessible	0 - 1.84	Relativity unrestricted to a wide range of goods, services and opportunities for social interaction
Accessible	>1.84 - 3.51	Some restrictions to accessibility of some goods, services and opportunities for social interaction
Moderately accessible	>3.51 - 5.80	Significantly restricted accessibility of goods, services and opportunities for social interaction
Remote	>5.80 - 9.08	Very restricted accessibility of goods, services and opportunities for social interaction
Very Remote	>9.08 - 12	Locality disadvantaged – very little accessibility of goods, services and opportunities for social interaction

Using the ARIA classification system, the Papulankutja Remote Community’s score is 12.0000 with an ARIA rating of ‘very remote’ (Measuring Remoteness: ARIA, n.d.). A key factor of remoteness is population. The link between population and accessibility to education requires that the government ensures appropriate planning and funding is provided (Commonwealth Department of Health and Aged Care, 2001).

2.3 NGAANYATJARRA LANDS SCHOOL NETWORK

The second dimension discusses the Ngaanyatjarra Lands School Network. There are three areas to the Ngaanyatjarra Lands School Network that are significant to the study: History of the Ngaanyatjarra Lands School Network, current policies in the Ngaanyatjarra Lands School Network and link between Ngaanyatjarra students’ home and school life.

The Ngaanyatjarra Lands School Network lies under the jurisdiction of the Department of Education of Western Australia. The school network caters for 316 students from Kindergarten to Year 12 (ACARA, 2014a). The Ngaanyatjarra Lands School Network comprises nine remote campuses managed as one school in the

Western Desert (Ng Lands School Website, 2014). These schools are located across 250,000 square kilometres, “approximately 3 percent of mainland Australia” (Kral, 2012, p.14). An Executive Principal leads the school and each campus has a Campus Principal. The school campuses include Warburton, Tjirrkarli, Wanarn, Mantamaru (Jameson), Papulankutja (Blackstone), Irrunytju (Wingellina), Warakurna, Tjukurla and Kiwirrkurra (Ngaanyatjarra Lands School, 2014). Figure 2.2 depicts the Ngaanyatjarra Lands School Network.



Figure 2.2 Ngaanyatjarra Lands School Network. Retrieved from <http://static.ngurra.org/img/map2009.png>

Using the ARIA classification system, the average score of all nine campuses of the Ngaanyatjarra Lands School Network is 12.0000 with an ARIA rating of Very Remote (Commonwealth Department of Health and Aged Care, 2001). The majority of students are Aboriginal whose first languages are Western Desert Languages: Ngaanyatjarra, Pintupi and Pitjantjatjara (Kral, 2012; Ngaanyatjarra Lands School, 2014).

The Ngaanyatjarra Lands School Network was developed in 2007 with the Education, Training and Lifelong Learning Framework Agreement between the Ngaanyatjarra Council, the Commonwealth Government and the State Government of Western Australia (ACARA, 2014a). The agreement formed The Ngaanyatjarra Lands School Network with the aim to provide a framework and structure for education and training in the Ngaanyatjarra Lands. This agreement recognised that education and

training outcomes in the Ngaanyatjarra Lands were below adequate standards (Australian Government, Government of Western Australia & Ngaanyatjarra Council, 2007).

Attendance is a major issue of concern in Aboriginal education. In 2014, The Department of the Prime Minister and Cabinet (DPMC) mandated the Remote Aboriginal Attendance Strategy to address the issue. A history of research outlined attendance as presently a key issue of concern (Harrison, 2012; O’Keefe, Olney & Angus, 2012; Price, 2012). Specifically in the Ngaanyatjarra Lands School Network, many different attendance strategies have been implemented to overcome the issue of attendance. Attendance in the Ngaanyatjarra Lands School Network is very difficult to predict due to cultural traditions and transiency.

The traditional methods of education in the Ngaanyatjarra Lands differ from mainstream practices. Beryl Jennings, a local Ngaanyatjarra elder commented, “How do children learn Ngaanyatjarra way? They learn when Grandpop talks to them. Also they learn by watching – looking at Nanna making *wirra* (digging bowl) or making damper” (Shinkfield & Jennings, 2006, p. 24). She added, “They talk about the activities in Ngaanyatjarra, they copy each other, they play with the same things every day – they are learning” (Shinkfield & Jennings, 2006, p. 24). Ngaanyatjarra children learn by watching or observation, by talking in their home language, Ngaanyatjarra, with their family members and by copying or imitating (Shinkfield & Jennings, 2006). It is important that these traditional methods of teaching and learning are considered in the current teaching practices and context for remote schooling.

Strong community and school partnerships are also viewed as essential in remote education (Harrison, 2005; Harrison & Sellwood, 2016). As such, the employment of an Aboriginal Liaison Officer provides this much needed link between Ngaanyatjarra students’ home and school life. The Aboriginal Liaison Officer for the Ngaanyatjarra Lands School Network is a bilingual representative of the Ngaanyatjarra Lands region. This Liaison Officer and the elders of the Ngaanyatjarra Lands want to educate Ngaanyatjarra students on the “two worlds we got: Cultural and Western” (Interview, 2013). These two worlds include Dreaming stories (*tjukurrpa*), hunting,

gathering, making damper and Western society. The Aboriginal Liaison Officer for the Ngaanyatjarra Lands School Network stated,

We want to learn English so we have the knowledge to talk up and keep learning. We want to do maths, and learn about technology and the world outside our community. We want to become strong and responsible people who can earn money and help our communities in the future. We want to build, show and receive, respect” (Ngaanyatjarra Lands School, 2014).

The Aboriginal Liaison Officer and Ngaanyatjarra elders work with the school community to ensure a collaborative approach to education (Ngaanyatjarra Lands School, 2014). The Aboriginal Liaison Officer works side-by-side with the Executive Principal.

2.4 PAPULANKUTJA REMOTE COMMUNITY/ CAMPUS

The third dimension discusses the Papulankutja Remote Community/Campus. The Papulankutja Remote Community has been described as one of the most remote communities in Australia and is located in the Shire of Ngaanyatjarraku, Western Australia. It is a small and isolated community with a population in the order of 150 people situated approximately 60 kilometres northwest of the Western Australia, South Australia and Northern Territory tri-state border (Acker & Carty, 2011). The Community is located half way between Mantamaru and Irrunytju. Figure 2.3 depicts Papulankutja from the air.



Figure 2.3 Papulankutja Remote Community from the air (from researcher’s own collection)

The Papulankutja campus of the Ngaanyatjarra Lands School Network is located in the northerly point of the Goldfields District. Teaching and support staff at the Papulankutja Campus comprise a Campus Principal, an Early Childhood class teacher, a Middle Primary teacher and a Secondary teacher. There are three classrooms, library, home economics room, administration building and absolution block. At the time of the study, 52 students were on the school attendance roll.

Teachers and staff use instructional commands in the native Ngaanyatjarra language in order for the classroom to function effectively, especially in the Early Childhood class. Students use limited Standard Australian English [SAE]. English as an additional language is often a barrier in remote classrooms. The people of Papulankutja share the culture, art and *tjukurrpa* with the younger generations continuing the connection to country and honouring the ancient heritage of the Ngaanyatjarra region (Kral, 2012). Figure 2.4 depicts the Papulankutja women teaching the school children *tjanpi* (weaving) on a bush trip in November 2013.



Figure 2.4. Papulankutja women teaching the school children *tjanpi* (weaving) on a bush trip in November 2013 (from researcher's own collection).

Ngaanyatjarra is the native form of oral language in Papulankutja, and is the most common language used (Kral, 2012). Community members have a limited understanding of SAE. Papulankutja Remote Community remains highly traditional in cultural terms and community members participate heavily in major ceremonies that link them to various other communities and regions (Ah Kit, 2003). The area around Papulankutja contains some of the most significant sacred sites in the Ngaanyatjarra region. The Ngaanyatjarra and Papulankutja people have an uninterrupted occupation of their land (Kral, 2012).

The people's connection to country is referred to in Ngaanyatjarra language as *tjukurrpa* (Brooks, 2013). The *yarnangu* (people) are at the centre of the universe and they hold the key role in management for their land (Brooks, 2013). Brooks (2013) emphasised, "People are owned by the land, rather than owning it" (p. 7). The natural world or country is the "birthplace or inheritance of all Ngaanyatjarra people" (Brooks, 2013, p. 8). Ngaanyatjarra people refer to their birthplace as "my *ngurra*, my country" (Brooks, 2013, p. 9). Papulankutja Remote Community members hold this connection to their *ngurra* (country).

2.5 CONCLUSION

Within the context of the study, three dimensions were explored. These dimensions were: geographical setting, the Ngaanyatjarra Lands School Network and the Papulankutja Remote Community/Campus. The first dimension discussed the geographical setting and two areas: ARIA and remote Aboriginal Australia. The second dimension, the Ngaanyatjarra Lands School Network, presented the history, current policies and the link between the Ngaanyatjarra students' home and school life. The third dimension outlined the Papulankutja Remote Community/Campus and discussed the geographical location, school/campus environment and history of the remote community.

CHAPTER THREE

REVIEW OF LITERATURE

3.1 INTRODUCTION

The purpose of the research was to observe and describe the effect of Montessori pedagogy in a remote Aboriginal Early Childhood program. The research questions that framed this study were:

1. In what ways do Aboriginal students respond to Montessori pedagogy within a remote Early Childhood program?
2. In what ways has Montessori pedagogy impacted on student behaviour within a remote Aboriginal Early Childhood program?
3. In what ways has Montessori pedagogy impacted on language learning and development within a remote Aboriginal Early Childhood program?
4. In what ways has Montessori pedagogy engaged community members to interact within a remote Aboriginal Early Childhood program?

It seemed appropriate, therefore, to examine the literature across the following three topics: current policies and practices in Early Childhood education in Australia; current policies in Aboriginal education and; the principles and practices of Montessori pedagogy. Table 3.1 outlines a structure for the review of literature pertinent to the study.

Table 3.1

Outline of the Literature Review

3.2	Conceptual framework
3.3	Current policies and practices in Early Childhood education in Australia
3.4	Current policies and practices in Aboriginal education
3.5	Montessori pedagogy
3.6	Summary

3.2 CONCEPTUAL FRAMEWORK

The interplay between the three topics, that is, current policies and practices in Early Childhood education in Australia, current policies and practices in Aboriginal education and principles and practices of Montessori pedagogy brings into focus the conceptual framework that underpins this research. A review of the literature on current

policies and practices in Early Childhood education in Australia highlights recent national and state policies and methods of best practice. Literature on current policies and practices in Aboriginal education focuses on the key documents for educational institutions working with Aboriginal students and the main practices schools should employ. The review of the literature on principles and practices of Montessori pedagogy is organised in terms of four sub-themes of Montessori education: historical context, child development, teaching and learning and current research. The conceptual framework underpinning the review of literature is presented in Figure 3.1.

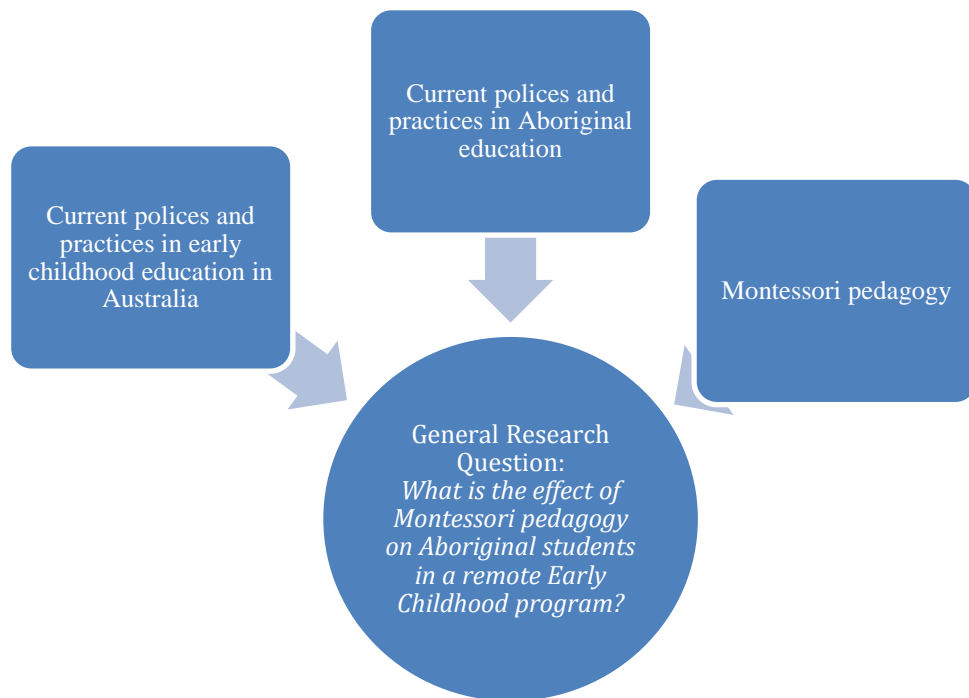


Figure 3.1. *Conceptual Framework of the literature related to Early Childhood education and Aboriginal education.*

3.3 CURRENT POLICIES AND PRACTICES IN EARLY CHILDHOOD EDUCATION IN AUSTRALIA

In this section three key policies, the National Quality Framework [NQF] (ACECQA, 2012), the Early Years Learning Framework [EYLF] (DEEWR, 2009), and the Australian Curriculum (ACARA, 2014a) are initially described, as these key policies underpin the teaching practices in the classroom observed in the study. Current practices within Early Childhood education are then reviewed, specifically the practices of play-based learning and learner-centred approaches.

3.3.1 Current policies in Early Childhood education in Australia

3.3.1.1 *National Quality Framework*

The National Quality Framework [NQF] (ACECQA, 2012) was established in 2012 for Early Childhood education centres and after school hours care services across Australia. The aim of the framework is to improve quality and foster ongoing development within Early Childhood settings across Australia (ACECQA, 2012). The National Quality Standard [NQS] (ACECQA, 2012) is a key component within the National Quality Framework (ACECQA, 2012). The Standard outlines seven quality areas to which Early Childhood education providers should adhere. The aim of the policy is to outline a guideline for Early Childhood providers to deliver high quality educational institutions for all children across Australia (ACECQA, 2012). Table 3.2 outlines the seven quality areas of the NQS (ACECQA, 2012).

Table 3.2

Quality areas of the National Quality Standard (ACECQA, 2012)

1	Educational program and practice
2	Children’s health and safety
3	Physical environment
4	Staffing arrangements
5	Relationships with children
6	Collaborative partnerships with families and communities
7	Leadership and service management

ACECQA (2012) aims to endorse high-quality Early Childhood programs through each of the seven areas in the NQS identified for improvement, reflection and learning. The key focus of the standard is to promote “the safety, health and wellbeing of children” (ACECQA, 2012, p. 1). The NQS was a mandated policy for early childhood education and the teacher-researcher adhered to this quantity standard.

3.3.1.2 *Early Years Learning Framework*

To address Standard One of the NQS (ACECQA, 2012), DEEWR (2009) produced the Early Years Learning Framework [EYLF]. This framework is mandated for all Early Childhood educators working in learning programs for children birth to five years, across Australia. Within Western Australia, the framework is mandated from

birth to eight years. DEEWR (2009) identified three fundamental requirements for a child's development and learning: belonging, being and becoming, which are reflected in the EYLF. Figure 3.2 depicts the elements of the EYLF (DEEWR, 2009).

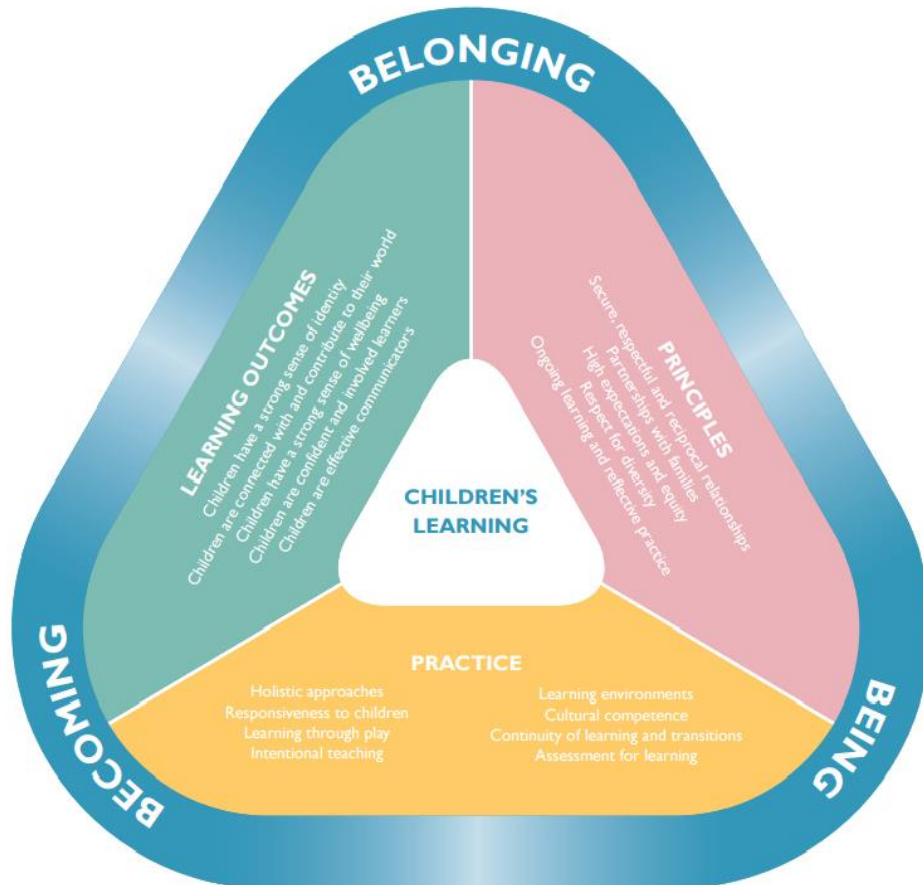


Figure 3.2. *Elements of the Early Years Learning Framework [EYLF] (DEEWR, 2009, p.10).*

DEEWR (2009), through the EYLF, as a mandated document for educators, aims to provide the best practice, care and education for Early Childhood students. The impetus for the framework was to provide a policy for Early Childhood educators to ensure nationwide consistency. Additionally, the framework aimed to provide a structure for quality in Early Childhood programs. The three sections of the framework are: principles, practices and learning outcomes. Table 3.3 outlines the principles, practices and learning outcomes of the EYLF (DEEWR, 2009).

Table 3.3

Principles, Practices and Learning Outcomes of the Early Years Learning Framework [EYLF] (DEEWR, 2009)

Principles	Practices	Learning Outcomes
<ul style="list-style-type: none"> • Secure, respectful and reciprocal relationships • Partnerships with families • High expectations and equity • Respect for diversity • Ongoing learning and reflective practice 	<ul style="list-style-type: none"> • Holistic approaches • Responsiveness to children • Learning through play • Intentional teaching • Learning environments • Cultural competence • Continuity of learning and transitions • Assessment for Learning 	<ul style="list-style-type: none"> • Children have a strong sense of identity • Children are connected with and contribute to their world • Children have a strong sense of wellbeing • Children are confident and involved learners • Children are effective communicators

The principles of the EYLF (DEEWR, 2009) outline the fundamental beliefs of Early Childhood educators across Australia. These beliefs provide the foundation for all Australian Early Childhood learning centres. The principles underpin the practices, which relate to the pedagogy of Early Childhood educators. Education facilitators use the listed pedagogical practices within the teaching and learning environment. The learning outcomes outline the goals the children should achieve during their experiences in the Early Childhood setting.

3.3.1.3 *The Australian Curriculum*

The Australian Curriculum Assessment and Reporting Authority [ACARA] (2014a) developed the Australian Curriculum to provide a nationwide curriculum for all school-aged children in Australia. In addition, the curriculum links to a national assessment program to monitor and measure student progress (ACARA, 2014a), known as NAPLAN (ACARA, 2014a). Table 3.4 outlines the list of the eight learning areas in the Australian Curriculum (ACARA, 2014a).

Table 3.4

Eight learning areas of the Australian Curriculum (ACARA, 2014a, p. 15)

1	The Arts: Dance, Drama, Media Arts, Music and Visual Arts
2	English
3	Health and Physical Education
4	Humanities and Social Sciences
5	Languages
6	Mathematics
7	Science
8	Technologies: Design and Technology; and Digital Technologies

In addition to the Australian Curriculum (ACARA, 2014a), ACARA released two support documents: English as an Additional Language or Dialect (EAL/D): Teacher Resource and Dimensions of the Australian Curriculum. The EAL/D Teacher Resource (ACARA, 2014b) aimed to provide support for teachers’ delivering teaching and learning programs to students who are classified as English as an additional language or dialect. The resource intends to provide advice for teachers when delivering the curriculum and to provide practical examples of implementation (ACARA, 2014b). The EAL/D Teacher Resource (ACARA, 2014b) assisted the teacher-researcher of this study as, 17 of the 18 participants’ were classified as learning English as an additional language. The participants’ home language was Ngaanyatjarra. The Dimensions of the Australian Curriculum (ACARA, 2014c) aims to provide direction for teachers when exploring Aboriginal and Torres Strait Islander culture and history. The document highlights the importance of teaching Aboriginal and Torres Strait Islander history and culture to all Australian children. Although ACARA focused on Aboriginal and Torres Strait Islander history and culture, research states a specific *Anangu* (Aboriginal person) curriculum should be developed for Aboriginal and Torres Strait Islander students (Minutjukur, 2013, p. 9).

The EAL/D and Dimensions support documentation are pertinent to this study as the majority of participants are of Aboriginal descent and English is often their third or fourth language. In relation to the Australian Curriculum (ACARA, 2014a), current research suggests that the national curriculum might be superfluous in a remote Aboriginal setting (Guenther, 2012; Lester, 2013; Mintjukur, 2013; Osborne, 2013; Tjitayi, 2013). Mintjukur (2013) commented, “The Australian Curriculum is expected to

be taught in *Anangu* (Aboriginal) Schools and this is very difficult for them to learn properly. At this rate, perhaps we will continue to fail year after year” (p. 9). In 2013, Flinders University Australia presented a proposal for an alternative curriculum for remote Aboriginal students entitled, Red Dirt Curriculum. The Red Dirt Curriculum aims to provide more culturally appropriate pedagogical practices for remote Aboriginal students (Lester, 2013; Mintjukur, 2013; Osborne, 2013; Tjitayi, 2013).

3.3.2 Current practices in Early Childhood education in Australia

Currently there are two key constructivist pedagogical underpinnings in Early Childhood education in Australia: play-based learning and learner-centred ideology. Constructivism can be defined as “a theory suggesting that children learn by constructing their own understanding” (Brewer, 2006, p. 503). Jean Piaget and Lev Vygotsky were the founding theorists of constructivism and modern theorists include Jerome Bruner and George Forman (Piaget, 1959; Vygotsky, 1978). Constructivists’ pedagogical practices are supported in the EYLF (DEER, 2009). Specifically, key principles within the EYLF (DEEWR, 2009) endorsed play-based learning and learner-centred pedagogical practices. Table 3.3 outlines the key principles and practices of the EYLF.

3.3.2.1 *Play-based learning*

Play-based learning can be described as “a context for learning through which children organise and make sense of their social worlds, as they actively engage with people, objects and representations” (DEEWR, 2009, p. 46). Pramling-Samuelsson and Fler (2009) states that play-based learning is “characterised by thinking and activity that is symbolic, meaningful, active, pleasurable, voluntary, rule-governed and episodic” (p. 2). Play-based learning can occur in many different modes (Barblett, 2010). These different modes can comprise numerous configurations of children and materials. Table 3.5 describes the six modes of play.

Table 3.5

Six modes of play (Barblett, 2010, p.1)

Pleasurable-play	An enjoyable and pleasurable activity.
Symbolic-play	Meaning to the player that is often not evident to the educator.
Active-play	Requires action: either physical, verbal or mental engagement with materials, people, ideas or the environment.
Voluntary-play	Freely chosen. However, players can also be invited or prompted to play.
Process-orientated-play	Players may not have an end or goal in sight.
Self- motivating-play	Is considered its own reward to the player (Shipley, 2008)

Play-based learning is endorsed by the EYLF (DEEWR, 2009). Learning through play enables the child to construct meaning of their world through interacting with people and objects (Barblett, 2010). Play is a cultural activity and cannot be separated from learning and development (Barblett, 2010; Shipley, 2008). However, current researchers argue that although play is natural to a child, it is not always the best method of learning (Fleer & Peers, 2012). Grieshaber and McArdle (2010) argue that “there are other sides to play that are not so romantic, natural or particularly educative, and play is not always the best way for young children to learn” (p.1). Researcher’s state that natural play is not occurring in classrooms; what is occurring is manufactured play (Fleer & Peers, 2012; Grieshaber & McArdle, 2010). Pedagogical practices of play-based learning fail to provide students in early childhood setting adequate teaching and learning experiences (Fleer & Peers, 2012; Siraj-Blatchford, 2009).

DEEWR (2009), however, discusses the importance of play-based learning and teaching. Play-based learning provides a context for children to “organise and make sense of their social worlds, as they engage actively with people and representations” (DEEWR, 2009, p.46). Furthermore, “play fosters creative skills through imagination, thought and strategies for problem solving” (DEEWR, 2009, p. 46). In relation to this study, the teacher-researcher reviewed the current body of literature for play-based learning and identified similarities between play-based learning and Montessori pedagogy. These similarities included the importance of children developing skills of problem solving, social cooperation and social collaboration. In summary, the play-based learning is a key pedagogical practice with the Early Childhood curriculum documentation in Australia, therefore, must be incorporated.

3.3.2.2 *Learner-centred ideology*

The second practice common in Early Childhood education is learner-centred ideology. The objective of the learner-centred ideology is to develop the child as a member of society (McLachlan, Flear & Edwards, 2010). Learner-centered ideology aims to provide a pedagogical framework for the teacher to meet the needs and interests of the child. The child is the centre of the teaching and learning environment. Within this ideology, the student needs are met and not those of the teacher, staff and the wider community (McLachlan, Flear & Edwards, 2010).

Friedrich Frobel, Johann Heinrich and Jean-Jacques Rousseau were key theorists of learner-centered education. Modern theorists include John Dewey, Loris Malaguzzi and Maria Montessori. Specifically, Dewey was the leading education theorist in North America in the early 1900s and founded the practice of learner-centred ideology (Brewer, 2006).

Key principles of the ideology include: hands-on, integrated, interest and experienced based learning (Brewer, 2006; McLachlan, Flear & Edwards, 2010). These principles aim to encourage independence, concentration, self-determination and perceptual awareness. Models of learner-centred ideology include: active learning, collaborative learning, inquiry-based learning, cooperative learning, project based learning and Montessori pedagogy (Brewer, 2006).

3.3.3 Summary

In this section, two sub-themes of literature were highlighted in relation to the intended research: current policies of Early Childhood education in Australia and current practices of Early Childhood education in Australia. Three key policies in Early Childhood education in Australia were reviewed: the Australian Curriculum (ACARA, 2014a), the National Quality Standards [NQS] (ACECQA, 2012) and the Early Years Learning Framework [EYLF] (DEEWR, 2009). The teacher-researcher of this study adhered to these mandated policies with the teaching and learning practices within the Early Childhood setting observed in this research. As seventeen of the eighteen participants of this study were classified as learning English as an additional language, the teacher-researcher sought to understand current policies for EAL/D students. Two current practices of Early Childhood education in Australia were reviewed: play-based

learning and learner-centred ideology. The teacher-researcher analysed play-based learning and learner-centered ideology in relation to Montessori pedagogical practices to draw similarities and differences.

3.4 CURRENT POLICIES AND PRACTICES IN ABORIGINAL EDUCATION

Two key Department of Education policies underpin the classroom observed in the study. The first is the National Aboriginal and Torres Strait Islander Education Strategy (MCEECDYA, 2015) which outlines the national education policy for all public schools across Australia. The second is the Directions for Aboriginal Education 2015 (Department of Education, Western Australia, 2015), the current document for public schools across Western Australia. These documents provide the framework for the operational structure of Department of Education schools within Western Australia. These two documents are now reviewed.

3.4.1 National Aboriginal and Torres Strait Islander Education Strategy

The National Aboriginal and Torres Strait Islander Education Strategy (MCEECDYA, 2015) builds on the previous educational policy, Aboriginal and Torres Strait Islander Education Plan 2010-2014 (MCEEDYA, 2010). This current educational strategy aims to outline the commitment education ministers to Aboriginal and Torres Strait Islander students (MCEEDYA, 2015). The document details seven priority areas. These priority areas include: leadership, quality teaching and workforce development; culture and identity; partnerships; attendance; transition points including pathways to post-school options; school and child readiness; and literacy and numeracy (MCEEDYA, 2015).

One major change from the previous policy is the removal of the seven targets for action (MCEEDYA, 2010). These seven targets for action provided educational settings with key objectives for Aboriginal and Torres Strait Islander students. Each target was set with an optimal completion date. However, current policy updates acknowledge that the seven targets for action have not been achieved (DPMC, 2016). Researchers (DPMC, 2016; Guenther, 2012; Hewitson, 2007; Hughes & Hughes, 2009; Osborne, 2013) conclude that due to limited support for principals, teachers, students and community members, these targets have failed to address the factors impacting achievement.

Current research states that factors such as poor attendance, poor attention, high teacher turnover, language learning difficulties, attrition and fragmented approaches contribute to the failure of Aboriginal education (DPMC, 2016; Guenther, 2012; Hewitson, 2007; Osborne, 2013). DPMC (2016) stated, “Since 2008, the Australian Government has made available more than \$2.8 billion to support state and territory governments to increase children’s participation in Early Childhood education programs” (p. 13). Remote Aboriginal education has undergone an abundance of proposals and restructurings however, current data suggests minimal improvements have been made to close the gap (DEEWR, 2009; DPMC, 2016; Guenther, 2012; Osborne, 2013). Current research states that limited progress has been made in remote Aboriginal education settings (DPMC, 2016) and highlights the importance of trialling alternative methods of teaching and learning.

3.4.2 The Directions for Aboriginal Education 2016

The policy, *The Directions for Aboriginal Education 2016* (Department of Education, Western Australia, 2016) is the current key document for Aboriginal education for Western Australian schools. Current Early Childhood education policy states, “All children have the right to an education ... that lays a foundation for the rest of their lives, maximizes their ability and respects their family, cultural and other identities and languages” (DEEWR, 2009, p. 5). As such the school community of Papulankutja is cognizant of the need to comply with the four key areas of focus within the plan. These include: children are ready for school; students attend school regularly; students improve literacy and numeracy skills; and students have pathways to real options after school (Department of Education, Western Australia, 2016, p. 2). Within this study, the teacher-researcher complies with the four areas of focus however, current research states that limited progress has been made within the state of Western Australia in remote Aboriginal teaching and learning environments (DPMC, 2016; Department of Education, Western Australia, 2016).

3.4.3 Current practices in Aboriginal education

Three main practices are identified for educational institutions to provide successful teaching and learning experiences to Aboriginal students (DEEWR, 2016; Harrison, 2005; McKnight, 2016; National Congress for Australia’s First Peoples, 2016; Perso & Hayward, 2015). The three practices that are crucial for working with Aboriginal students are: building partnerships with families (DEEWR, 2016; McKnight, 2016; National Congress for Australia’s First Peoples, 2016; Perso & Hayward, 2015); understanding and accepting cultural traditions and history (Government of Australia, 2016; McKnight, 2016; Mintjukur, 2013; Osborne, 2013; Perso & Hayward, 2015) and “working systematically” (DEEWR, 2016, p. 1; Perso & Hayward, 2015). Figure 3.4 depicts practices of successful education for Aboriginal and Torres Strait Islander students.

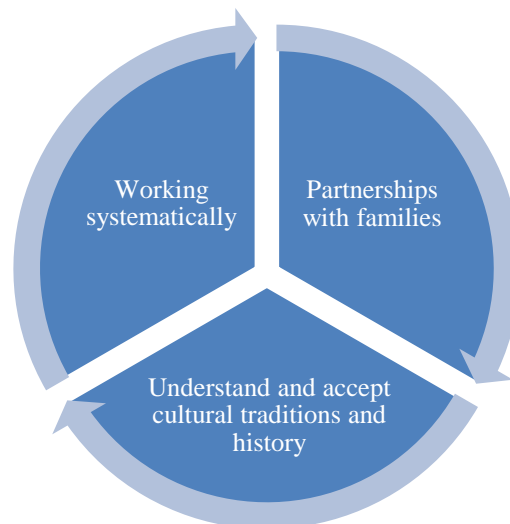


Figure 3.3. *Successful education for Aboriginal and Torres Strait Islander students.*

Each of the practices mentioned above are of equal importance. Educational institutions for Aboriginal and Torres Strait Islander students are encouraged to connect the three practices. These practices are now reviewed.

3.4.3.1 *Partnerships with families*

Forming partnerships with families is a key practice for working with Aboriginal students. Partnership can be defined as “an association of two or more people or partners” (Oxford Dictionary, 2016.) These partnerships can comprise numerous combinations within a school setting: teacher-student, teacher-

parent/guardian, teacher-Indigenous worker and; teacher-family/wider community (DEEWR, 2009; DEEWR, 2016; Department of Education Western Australia, 2015; Guenther, 2012; Harrison & Selwood, 2016; Munns, O'Rourke & Bodkin-Andrews, 2013; National Congress for Australia's First Peoples, 2016; Perso & Hayward, 2015). It is essential for schools working with Aboriginal students to "build strong community relationships across the whole community" (Munns, O'Rourke & Bodkin-Andrews, 2013, p. 2). The Victorian Government Department of Human Services (2006), has formulated, "seven guiding principles for building blocks for good communication with Aboriginal families" (p. 53). Each of the seven principles is of equal importance (Victorian Government Department of Human Services, 2006). Figure 3.4 depicts these seven guiding principles.

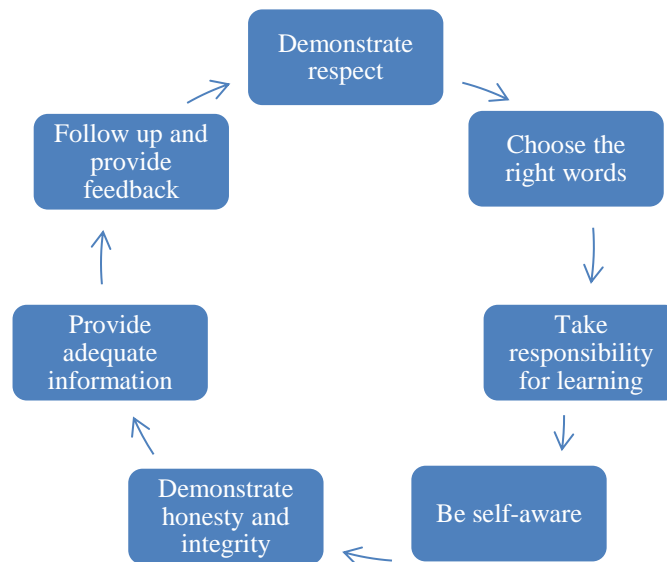


Figure 3.4. *Building blocks for good communication: seven guiding principles.* (Victorian Government Department of Human Services, 2006, p. 53)

When communicating with staff and parents, it is important for school staff to be conscious of the guiding principles. Conversations with families provide a foundation for building a relationship and subsequently, a partnership (Commissioner for Children and Young People, 2015; Department of Education Western Australia, 2015; Munns, O'Rourke & Bodkin-Andrews, 2013). The building of partnerships is a long-term process and requires all parties involved to be patient and sensitive to the cultural needs of the family (Commissioner for Children and Young People, 2015;

Department of Education Western Australia, 2015; McKnight, 2016; Perso & Hayward, 2015). McKnight (2016) commented, the “teacher placing themselves in a respectful relationship by sharing their experience of relationship with Country is crucial to the living relationship within Western Australia” (p. 122). The school staff must be conscious of current cultural events such as men’s business and initiations, sorry business (funerals) and other geographical specific significant events (McKnight, 2016; Munns, O’Rourke & Bodkin-Andrews, 2013).

3.4.3.2 *Understand and accept cultural traditions and history*

To engage effectively with Aboriginal students, it is crucial for school staff to build their knowledge and acceptance of cultural traditions and history to support positive relationships with the students, parents and wider community (Commissioner for Children and Young People, 2015; Department of Education Western Australia, 2015; Harrison & Selwood, 2016; Lester, 2013; McKnight, 2016; Munns, O’Rourke & Bodkin-Andrews, 2013; Nakata, 2007; National Congress for Australia’s First Peoples, 2016; Osborne, 2013; Perso & Hayward, 2015). The cultural traditions vary in each Aboriginal region of Australia and school staff should seek to understand and respect the local significant traditions, events and history (Commissioner for Children and Young People, 2015; Department of Education Western Australia, 2015; Osborne, 2013). Through the knowledge and acceptance of cultural traditions and history, the school is more likely to succeed in working effectively with Aboriginal students and their families (Munns, O’Rourke & Bodkin-Andrews, 2013; Perso & Hayward, 2015). In addition, the school should seek to understand *faux pas* specific to the local area by opening shared discussions with community elders and families. These discussions may be through verbal and non-verbal communication and may include practices such as people not looking people in the eyes when addressing them, or acknowledging the significant colours that should or should not be worn. Additionally, the school staff could build knowledge of local language/s or dialects that will in turn provide the school staff with a common language to be used in a classroom and wider community setting (Harrison & Selwood, 2016; Harrison, 2005; Perso & Hayward, 2015). Educational institutions in major centres often provide Indigenous language courses.

The understanding and acceptance of these cultural traditions could allow the teacher to successfully lay the foundations of “effective action” in partnerships with

families (DEEWR, 2016, p. 1). Through these practices, the school may gain respect for the local context. Understanding cultural traditions and history may provide the school and staff with a sense of belonging and inclusion, thus reducing the feeling of isolation. Living and working in a remote Aboriginal community can be a geographically isolating experience, therefore, socially and emotionally, the school staff may need support (Department of Education Western Australia, 2016). These feelings of isolation could be bridged if school staff seek to understand and accept cultural traditions and history, providing an increased sense of belonging in the remote Aboriginal community.

In addition to cultural traditions and history, the traditional child-rearing techniques and teaching practices should be considered. The traditional child-rearing techniques and teaching practices should be built in to current teaching and learning methodologies. Harrison (2005) stated, “Schools and institutions fail Indigenous students because they fail to accommodate their cultural differences” (p. 871). Schools and institutions should seek to understand how Indigenous students learn to inform teaching and learning practices in the classroom (Harrison & Selwood, 2016; Harrison, 2005; Perso & Hayward, 2015). Current teaching and learning methodologies separate western knowledge and Indigenous ways (Harrison, 2005; McKnight, 2016; Munns, O’Rourke & Bodkin-Andrews, 2013; Perso & Hayward, 2015; Robinson & Nichol, 1998). Yunkaporta (2009) describes “Aboriginal pedagogy as being holistic, imaginal, kinesthetic, cooperative, contextual and person-orientated, each point being contrasted with a opposite orientation from western pedagogy (p. 8). Cross cultural theories of teaching and learning in Indigenous education display characteristics by which students “regulate their own learning behaviour while the teacher’s responsibility would be to create conditions that enable this learning to take place” (Harrison, 2005, p. 873).

Key teaching and learning techniques used in traditional Aboriginal culture are observation, imitation, repetition, connected to real- life purposes and problem solving (Christie, 1984; Harris, 1984; Yunkaporta, 2009; Minutjukur, 2013; Robinson & Nichol, 1998; Shinkfield & Jennings, 2006). Schools and institutions should seek to incorporate self-regulated learning, purposeful learning, learning by observation into the current methodologies instead of separating traditional child-rearing techniques and teaching practices (Harrison, 2005; Yunkaporta, 2009; Perso & Hayward, 2015; Robinson & Nichol, 1998). Perso and Hayward (2015) commented, “teachers need to

find out about teaching and learning in the homes and cultures of their students so they can build a ‘bridge’ for students to make the transition from students’ homes to Western schools as smooth as possible” (p.50).

3.4.3.2 Working systematically (Government of Australia, 2016).

Another component of working with Aboriginal students, as shown in Figure 3.4, is working systematically. Working with Aboriginal students requires the school to plan for long-term goals with staff, students, parents and the wider community (Munns, O’Rourke & Bodkin-Andrews, 2013; National Congress for Australia’s First Peoples, 2016). DEEWR (2016) states, “effective action is not sporadic or short term, it is carefully planned and implemented” (p. 1). Practices in Aboriginal education require detailed review of government policy and current academic literature. The school should seek to understand current national and state policies to directly inform planning, strategies and targets and plan for long-term action. Working systematically within an educational context highlights the importance of long-term planning and collaboration with both the educational institution and the community to achieve common targets. Targets should be determined with all school staff and the wider community (Munns, O’Rourke & Bodkin-Andrews, 2013).

2.4.4 Summary

Two key policies in Aboriginal education were reviewed: The National Aboriginal and Torres Strait Islander Education Strategy (MCEECDYA, 2015) and Direction for Aboriginal Education 2016 (Department of Education, Western Australia, 2016). These key policies highlight literature confirming Aboriginal education in Australia is failing to meet the targets set for national and state policies. The next section of the literature review focuses on Montessori pedagogy as an alternative approach to remote Aboriginal education in an Early Childhood program.

3.5 MONTESSORI PEDAGOGY

Montessori pedagogy is the final section of the review of literature. The aim of Montessori pedagogy is to provide children with learning environments that enhance and support the “development of social, intellectual and ethical independence” (Montessori Australia Foundation, 2011, p. 3). A Montessori classroom can be described as a multi-age setting with a prescribed set of educational materials, where the

student selects his, or her own work for a long period of time (Brown & Steele, 2016; Cossentino, 2010; Danner & Fowler, 2015; Lillard & Quest, 2006). Four sub-themes relating to Montessori pedagogy are reviewed. These are: historical context, child development, teaching and learning; and current research (Figure 3.6).

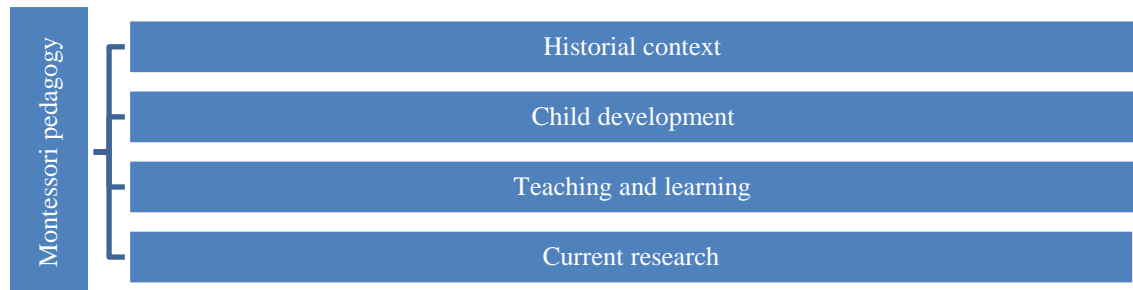


Figure 3.5. *Four sub-themes of Montessori pedagogy.*

3.5.1 Historical context

The founder of Montessori pedagogy was Dr. Maria Montessori. Dr. Montessori graduated as one of the first female physicians in Italy in 1896 and continued her studies in anthropology, natural sciences and psychology. She established the first *Casa dei Bambini* (Children's House) for students aged three to six in Rome in 1907 (Feez, 2010; Lillard, 2005). The students of the *Casa dei Bambini* were of the lowest social-economic level and the majority of the parents were illiterate (Montessori, 1966). In 1909 the *Casa dei Bambini* began to gain international attention from educational academics because the children “very quickly became socially and intellectually independent, not through adult coercion, but through their own activity, interest and effort” (Montessori Australia Foundation, 2011, p. 3). Four Australian educators attended the first Montessori training course in Rome in 1913 (Montessori Australia Foundation, 2011; Feez, 2013). The Montessori National Curriculum (Montessori Australia Foundation, 2011) is the lead document of Montessori pedagogy in Australia. ACARA approved the Montessori National Curriculum (Montessori Australia Foundation, 2011) in November 2011 as an alternative curriculum to The Australian Curriculum (ACARA, 2014a).

3.5.2 Child development

Table 3.6 outlines the six concepts of child development within Montessori pedagogy.

Table 3.6

Six concepts of child development (Adapted from Isaacs, 2012)

1	Planes of Development (divided into four six-year spans)
2	Sensitive periods
3	Movement
4	Sensory learning
5	Freedom/Independence
6	Observation

The first concept within child development is the Planes of Development. The Planes of Development are divided into four six-year spans or multi-aged groups (Cossentino, 2005; Feez 2010). Children display unique characteristics that are specific to each six-year span (Isaacs, 2012). Figure 3.6 presents Dr. Montessori's Four Planes of Development specific to each six-year span.

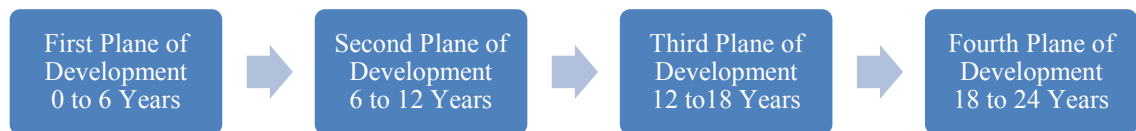


Figure 3.6. *Four Planes of Development*

Multi-age groupings aim to provide the each child with an understanding of the wider world (Brown & Steele, 2015). The program observed in this study overlapped the first Plane of Development, from birth to six.

The second concept of child development is sensitive periods. A sensitive period can be defined as, “a special sensibility which a creature acquires in its infantile state, while it is still in a process of evolution” (Montessori, 1966, p. 38). Sensitive periods include: movement, language, love of the environment and order. During a sensitive period, children are drawn to a particular element of the environment (Lillard, 2005). Dr. Montessori discussed sensitive periods in the late 19th Century and the early 20th Century. Pediatric neuroscientists have since supported the hypothesis (Cossentino

& Whitescarver, 2012; Elliot, 2006; Lillard & Else-Quest, 2006; Fogassi, 2016; Hughes, 2015; Lillard, 2005). Specifically, pediatric neuroscientists have studied and documented the effects of Montessori pedagogy on children's neural development (Lillard & Else-Quest, 2006; Fogassi, 2016). Montessori pedagogy bases teaching and learning practices on sensitive periods to create neural engagement in children (Cossentino, 2010; Lillard, 2005). A child experiences the sensitive period for language during the first six years of life. During this time a spotlight is placed on conscious and unconscious learning experiences by which the child innately wishes to learn.

The third concept, movement, is a core element of child development within Montessori pedagogy (Johnson, 2016). Movement is a normal function of a human being. Voluntary movements provide children with the ability to control their mind through movement (Feez, 2010). Movement encourages gross motor equilibrium, fine motor control and coordination (Johnson, 2016). Dr. Montessori discussed three types of movement: analysis of movement, economy of movement and precision of movement. These three types of movement provide the child with the skills to develop coordination (Regni, 2015). Research suggests that movement and cognition are directly related (Lillard, 2005). Literature suggests mainstream educational programs do not support the relationship between cognition and movement (Lillard, 2005). Movement is a core foundation of Montessori pedagogy practices (Lillard, 2005). Human beings retain information more accurately and faster if cognition and movement are aligned (Fogassi, 2016). The Early Childhood program observed in this study catered for the concept of movement to occur.

The fourth concept is student independence, autonomy and freedom (Block, 2015; Cossentino, 2005). Autonomy is the central characteristic to Montessori methodology (Johnson, 2016). Research indicated that human beings have a basic need for autonomy (Ryan & Deci, 2001). Montessori pedagogy encourages children to work and build their own intellect with the guidance of the teacher and peers (Johnson, 2016). Independence and autonomy are key characteristics of traditional Aboriginal child-rearing techniques (Gollan & Malin, 2012; Harrison & Selwood, 2016). The teacher-researcher of this study, aimed to provide a teaching and learning environment that fostered student autonomy. Autonomy was achieved through encouraging and supporting student freedom of choice and independence. The teacher-researcher

directed these behaviours as far as possible within the context of the classroom.

The fifth concept centres on sensory learning (Cossentino & Whitescarver, 2012; Danner & Fowler, 2015; Lillard, 2005). Within a *Casa dei Bambini* Montessori classroom there are a set of materials for Sensorial Education. Sensory materials were developed to refine the child's senses (Lillard, 2005). The program observed in this study, had a full set of Montessori Sensorial Education materials. Montessori's staged theory of human development indicated a child's brain during the first plane of development requires sensorial exploration (Cossentino, 2007; Fogassi, 2016). To stimulate a child's neurological development the child needs to interact with his or her environment through the visual, tactile, olfactory, gustatory and auditory senses (Cossentino, 2007; Fogassi, 2016). Moreover, a child at thirty-six months will imitate adults through the use of his or her senses (Meltzoff, Williamson & Marshall, 2013). Imitation during this period of brain development is termed 'Mirror Neuron Systems' (MNS) (Meltzoff, Williamson & Marshall, 2013). MNS permit the child to sensorially learn new skills. Cossentino (2012) commented that "by the age six ninety-five percent of brain development is completed" (p. 31). Studies by Christie (1984) and Harris (1984) noted Aboriginal people learn by imitation (Harrison & Selwood, 2016).

Pediatric neuroscience highlights the importance of aligning sensory learning to child development (Fogassi, 2016; Hughes, 2015). The EYLF (DEEWR, 2009) confirmed sensory learning as a method of best practice within an Early Childhood teaching and learning environment. Outcome four of the EYLF (DEEWR, 2009) outlines that "Children are confident and involved learners" (p. 34) through the practice of linking the child to the natural sensory environment.

The final concept of child development within Montessori pedagogy is observation. Observation is an essential method of monitoring student progress to inform parents, caregivers and other professionals (Cossentino, 2005; DEEWR, 2009). Fler and Surman (2006) and Dr. Montessori hold similar approaches to observation within an Early Childhood educational setting. Through the process of observation, the teacher is able to understand the child in his or her natural state and only interrupt when the child is working unproductively (Block, 2016; Fler & Surman, 2006; Lillard, 2005). Montessori teachers are trained to observe children and direct them to the next

learning activity (Cossentino, 2005; Lillard, 2005). This practice is consistent with the practices promoted by other researchers, where teachers are trained to naturally observe children's activity (Fleer & Surman, 2006). Within the EYLF (DEEWR, 2009) observation is a method of inclusive assessment. Observation is a key component to learning within traditional Aboriginal child-rearing techniques. For example, Makinti Minutjukur who is the Director of the Pitjantjatjara Yankunytjatjara Education Committee stated, "When I was a child, I would go out together with my parents and learnt by watching them" (Minutjukur, 2013, p. 9). Katrina Tjitayi is the School Improvement Coordinator for the APY Lands and former Director of Pitjantjatjara Yankunytjatjara Education Committee. Tjitayi (2013) commented, "It would seem that learning today is more difficult. In the past they learnt by watching, listening and practicing what their family taught them" (p. 11). Observation as a teaching and learning pedagogical practice is presented in both Montessori pedagogy and traditional Aboriginal child rearing techniques (Christie, 1984; Harris, 1984). Breadmore (1986) completed a study in 1986 of Aboriginal children in remote Western Australia and noted the positive correlation between observation in Montessori practices and Aboriginal students. The teacher-researcher of this study, aimed to provide an educational setting that supported traditional Aboriginal practices.

3.5.3 Teaching and learning

There are three elements within Montessori pedagogy of teaching and learning (Figure 3.7).

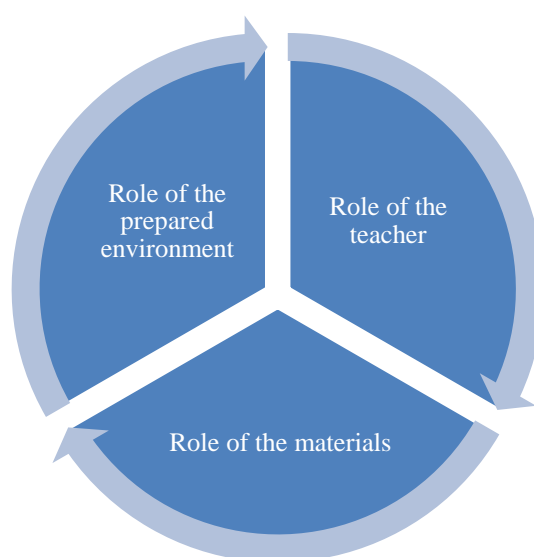


Figure 3.7 *Three elements within Montessori pedagogy of teaching and learning*

3.5.3.1 *Role of the teacher*

The role of the teacher is a key consideration within Montessori pedagogy.

Figure 3.8 outlines the five dimensions of the role of the teacher.

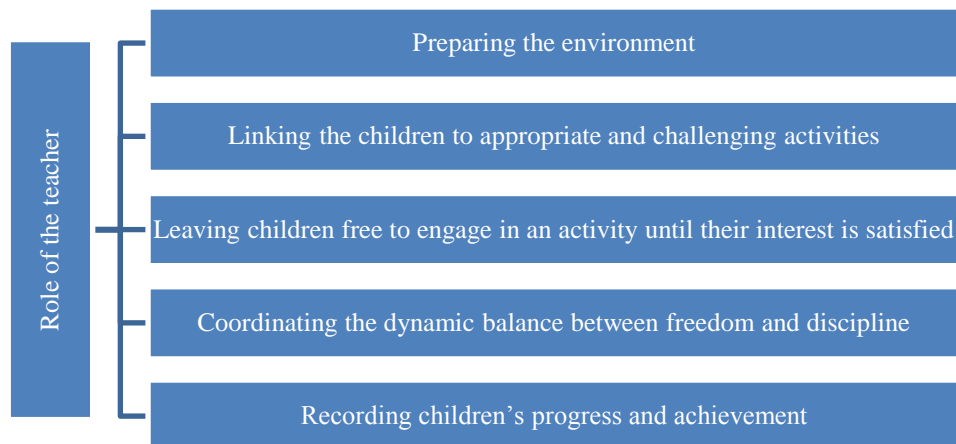


Figure 3.8 *Five dimensions of the role of the teacher within Montessori pedagogy (Montessori Australia Foundation, 2011).*

Within a Montessori classroom, the main role of the teacher is to connect the children to appropriate learning experiences through giving three period lessons (Cossentino, 2005; Johnson, 2016). The three period lesson is divided into: association, recognition and remembrance and derived from Sequin’s method “for obtaining an association between an object and its corresponding term in teaching defective children” (Montessori, 1967, p. 156). Dr. Montessori discovered this method was highly effective for all children (Lillard, 2005).

3.5.3.2 *Role of the materials*

The second element in the teaching and learning pedagogy is the role of the materials. Montessori materials are “sets of objects, each set designed to exacting specifications” (Montessori Australia Foundation, 2011, p. 10). Montessori materials are classified in four main areas: Practical Life, Sensorial Education, Language and Mathematics. Each area has a set sequence of materials. Montessori materials are intended to capture attention, promote interaction, self-mastery, self-correction, self-discipline, range across all learning areas and are designed to maintain a sequence in the learning continuum, moving from concrete to abstract (Cossentino, 2005). Montessori materials aim to isolate a single quality (Regni, 2015). Within a Montessori environment, there is only one of each material therefore, children learn to share with

their peers (DEEWR, 2009). In a Montessori teaching and learning environment, children from an early age develop self-confidence and experience real-life experiences through Montessori material (Cossentino, 2005). Research by Greeno (1998) concluded, “If we value students’ learning to participate in practices of inquiry and sense-making, we need to arrange learning practices of inquiry and sense-making for them to participate in” (p. 14). Montessori materials provide the child with the prepared environment for meaningful and real-life learning experiences. Methods of best practice within an Early Childhood teaching and learning environment outline the importance of a child working with materials that support real-life situations (DEEWR, 2009).

3.5.3.3 *Role of the prepared environment*

The third element considered in the teaching and learning curriculum is the role of the prepared environment. The Montessori prepared environment is orderly, materials have a particular place and the children are quiet (Cossentino & Whitescarver, 2012; Lillard, 2005). Research by Diamond and Lee (2011) identified that Montessori classrooms are usually characterised as uncluttered, simple and attractive. The physical environment includes furniture and materials suited to the child’s size, strength and developmental stage (Feez 2010; Gresham, 2002). As this environment is usually calm, the children are able to engage in deep concentration with their work as they feel protected, confident and assured (Cossentino, 2006). Environments should be welcoming and energetic spaces to promote learning and cater to the child’s interests and needs (DEEWR, 2009).

3.5.4 Current research of Montessori pedagogy

The fourth sub-theme explored in this review of the literature relates to current research concerning Montessori pedagogy. Particular elements of Montessori pedagogy from the early nineteenth hundreds have now been absorbed into current educational teaching and learning practices (Cossentino, 2007). Cossentino (2007) commented, “Many elements of Montessori thought to be ‘quaint’ and ‘unscientific’ have been validated and absorbed into the educational mainstream” (p.1). These elements include: child-size furniture, manipulative materials, multiage groupings, differentiated learning or self-paced learning and elements of play (Cossentino, 2010; Gresham, 2002; Lillard, 2005). These elements provide a structure for methods of best practice within Early

Childhood education (DEEWR, 2009; Gresham, 2002; Lillard, 2005).

The concept of play is a method of best practice in an Early Childhood program (DEEWR, 2009). Montessori pedagogy links the terminology play and 'work'. The concept of 'work' is frequently discussed in child development within Montessori pedagogy. Specifically, Montessori practitioners use the term in "technical, social and moral" forms (Cossentino, 2006, p. 64). Dr. Montessori (1966) stated, "A child's desire to work represents a vital instinct since he cannot organise his personality without working" (p. 186). Through social, sensory and cognitive work the child explores the environment (Fogassi, 2016). Within Montessori pedagogy, research documents the link between work and play-based approaches. For example, "Montessori's multilayered conception of work overlaps in some important ways with current understandings of play" (Cossentino, 2006, p. 68). These corresponding overlaps include practices being child-centered and the child being guided by his or her own natural desire for exploration (Cossentino, 2006; Csikszentmihalyi, 1990; Rathunde, 2001). Similarly to play, work within a Montessori teaching and learning environment allows the child to "discover, create, improvise and imagine" (DEEWR, 2009, p. 15). Both 'work' and play aim to provide the child with the opportunity to promote cognitive development through problem solving and social development through collaboration with peers (DEEWR, 2009).

Current research highlights that Montessori pedagogy provides techniques of classroom management that are considered to be best suited for a culturally diverse student cohort (Brown & Steele, 2015). From 2011 to 2012, a comparative study was completed by Brown and Steele (2015) in seventeen public elementary schools in the United States of America, three public Montessori schools and twelve mainstream public schools. The total number of students in this study were 12 886 (1 102 from Montessori public schools and 11 784 from mainstream public schools). Brown and Steele (2015) stated that, "Montessori environments may provide lessons for traditional schools to promote equitable discipline" (p. 15). They highlighted moreover, the importance of multiage grouping and movement for children with behavioural issues as it provides "continuity of classroom culture and climate year to year" (2015, p. 17). Current research emphasises a link between the reduction of behavioural issues and freedom of movement within the classroom (Brown & Steele, 2015; Byun, Blair &

Pate, 2013). Further research by Pickering (2003) noted Montessori pedagogies are used as treatment strategies for students with Attention Deficit Hyperactivity Disorder (ADHD).

Along with the various advantages associated with Montessori pedagogy, commentators have highlighted certain criticisms. These criticisms include: fallacies of self-correcting materials, outdated pedagogy, small research sample sizes and the use of a unique script pertaining to Montessori teaching. Fallacies of self-correcting material (cited in Cossentino, 2007) arose in 1914 from researchers at Columbia University. Montessori pedagogy was developed in the late 19th and early 20th century and faces the criticism of providing an outdated teaching and learning pedagogy. The criticism of small sample sizes provides difficulty in reliability and generalizability of results in research of Montessori pedagogy. Criticism of the unique script derives from the teacher providing linguistically prescribed three period lessons with Montessori material to the child. Some children may not learn through this style of teaching.

In addition to these three criticisms, general disapproval of Montessori pedagogy is presented in international educational forums. For example, the Well-Trained Mind Forum (2016) suggested that children may not take to the Montessori independent style of work cycle and may find it difficult to transition into a mainstream classroom. Additionally, various international educational forums commented that Montessori schools can be elite, inaccessible and expensive as they are privately managed (Rasmussen College, 2016). Montessori schools are often privatised educational settings, which are only accessible to high income earning families. Montessori pedagogy can be criticised, as the materials are expensive to purchase (Rasmussen College, 2016; Well-Trained Mind Forum, 2016). The teacher-researcher's own situation reflected this criticism. She sourced all Montessori materials by donation from Montessori schools around Australia. Finally, Montessori teacher-training is considered expensive and geographically unattainable (Rasmussen College, 2016; Well-Trained Mind Forum, 2016). Generally, the teacher must hold a Bachelor of Education in addition to the Montessori training to work in a Montessori school. Montessori training is offered in limited geographical locations globally and can be difficult for teachers to access.

Despite these criticisms, Association Montessori Internationale [AMI], supports numerous Montessori projects around the world for children and families who are less fortunate. The *Educateurs sans Frontieres* encourages innovative and sustainable projects to help children in various geographical locations. Some locations include: ‘Born Inside’- Mothers and babies in Holloway prison and Bronzefield prison in the United Kingdom; Internally Displaced Persons camp in Nakuru Kenya- Corner of Hope Montessori Teacher Training and School; and a school for early childhood children in Haiti (Association Montessori Internationale, 2016; Feez, 2013). AMI *Educateurs Sans Frontiers* and the national Australian branch, Montessori Children’s Foundation [MCF], supported the teacher-researcher throughout the process of this study. MCF have supported other projects in Weipa State School in Cape York Peninsula, Strelley pastoral station in the Pilbara region of Western Australia, Wadja Wadja High School in southwest Rockhampton in Central Queensland, Cairns West Public School, and Tagai State College on Thursday Island in the Torres Strait Islands (Feez, 2012).

Currently there is limited published research regarding Montessori pedagogy in a remote Indigenous program (Breadmore, 1986; Montessori Children’s Foundation, 2013; Rioux & Rioux, n.d). The first documented collaboration of Montessori pedagogy with Aboriginal students was in 1977 at Weipa State School in Cape York Peninsula (Feez, 2012). The elders of the Napranum community “strong endorsed the approach” (Feez, 2012, p. 159). In the 1980’s Montessori teaching and learning practices were adopted with Aboriginal students at Strelley pastoral station in the Pilbara region of Western Australia (Breadmore, 1986; Feez, 2012). The elders of the ‘Strelley Mob’ supported the Montessori approach as the Aboriginal children were learning English as an additional language “without the loss of dignity” of their own culture and language (Feez, 2012, p. 159). In 1986 Murdoch University, then known as the Western Australian Institute of Technology conducted a study to describe the “parallels between the learning strategies valued in the community and the Montessori approach” (Feez, 2012, p. 160). However, due to lack of funding the project was forced to close (Breadmore, 1986).

More recently, there have been projects of the Montessori approach with Aboriginal and Torres Strait Islander children on Thursday Island, Armidale, Aurukun and Pormpuraaw (Montessori Children's Foundation, n.d.). Tagai College on Thursday Island in the Torres Strait Islands adopted the Montessori approach in 2009. In addition, a program for children aged 0 to 3 years was created, entitled 'Strait Start'. The Strait Start program has been introduced to six other islands in the area and regular training is held for Torres Strait Islanders who are employed by the school and program (Montessori Children's Foundation, n.d.). The Strait Start program aims to "capitalise on the solid foundation of the Torres Strait Nation and develop sustainable and culturally-relevant solutions that address the education, training and employment priorities of the communities" (Denzin & Boulden, 2010, p. 8). The Minimbah Montessori pilot project in Armidale in New South Wales ran from 2006 to 2009 for a mix of Indigenous and non-Indigenous children aged between 5 to 7 years. Montessori Children's Foundation (2013) highlighted that "the Indigenous Montessori children topped their school in the national NAPLAN tests" (Montessori Children's Foundation, 2013). A further study by Boulden, Hilson and Tyne (2010) highlighted the importance of Montessori pedagogy within an Indigenous setting, noting "Montessori does not impose a 'one-size-fits-all' program" (p. 7). Furthermore, Boulden, Hilson and Tyne (2010) argued, Montessori teaching and learning follows the child's development and introduces new skills and concepts once mastery, confidence and satisfaction are developed.

3.5.5 Conclusion

In this section, four sub-themes of literature relating to Montessori pedagogy were highlighted. These sub-themes include: the historical context of Montessori pedagogy, an overview of child development, a summary of Montessori teaching and learning practices and current research of education relating to Montessori pedagogy.

3.6 SUMMARY

In this chapter, literature was presented to identify the current policies and practices. The literature covered the following areas: Early Childhood education in Australia, Aboriginal education and Montessori pedagogy. The following chapter presents the research plan that was used in this inquiry.

CHAPTER FOUR

DESIGN OF THE RESEARCH

4.1 INTRODUCTION

The review of literature in Chapter Three drew attention to three topics. These topics were: current policies and practices in Early Childhood education in Australia; current policies and practices in Aboriginal education; and principles and practices of Montessori pedagogy. One general question and four specific questions evolved from this review and provided the focus for the conduct of the study. The general research question for the study is: What is the effect of Montessori pedagogy within a remote Aboriginal Early Childhood program? The four specific research questions to be addressed are:

1. In what ways do Aboriginal students respond to Montessori pedagogy within a remote Early Childhood program?
2. In what ways has Montessori pedagogy impacted on student behaviour within a remote Aboriginal Early Childhood program?
3. In what ways has Montessori pedagogy impacted on language learning and development within a remote Aboriginal Early Childhood program?
4. In what ways has Montessori pedagogy engaged community members to interact within a remote Aboriginal Early Childhood program?

Chapter Four presents an overview of the research design underscoring this study of Montessori pedagogy in a remote Aboriginal Early Childhood program. In the light of the above research questions, and considering the purpose of the study, to observe and describe the effect of Montessori pedagogy in a remote Aboriginal Early Childhood program, it seemed appropriate to undertake qualitative research of a phenomenological nature. Table 4.1 provides an overview of the research design.

Table 4.1

Overview of the Research Design

4.2 Theoretical framework	<ul style="list-style-type: none"> ● Epistemology ● Qualitative research ● Interpretivism ● Phenomenology
4.3 Methodology	<ul style="list-style-type: none"> ● Individual case study
4.4 Data collection	<ul style="list-style-type: none"> ● Video recording and observational framework by the teacher-researcher ● Journal writing by the teacher-researcher ● Review of the ten observational frameworks by the critical friend (general and individual) ● Review of the three one-on-one interviews with the informant
4.5 Research participants	<ul style="list-style-type: none"> ● Papulankutja Early Childhood Class
4.6 Trustworthiness	<ul style="list-style-type: none"> ● Methods of data collection ● Sources of participants ● Case study database
4.7 Data analysis	<ul style="list-style-type: none"> ● Content analysis
4.8 Ethical considerations	

4.2 THEORETICAL FRAMEWORK

The theoretical framework establishes the connection between the concrete features and the theoretical aspect of the research (Neuman, 2011). Crotty (1998) identified four components, which underpin a theoretical framework, these being: epistemology, theoretical framework, methodology and methods. The epistemological orientation of the theoretical framework is toward knowledge that emerges from a qualitative foundation, and an interpretivist, rather than positivist, approach to knowledge building. The theoretical perspective is the philosophical stance of the context informing the methodology. Methodology entails the plan, design or strategy for the methods of research. Finally, methods can be defined as the procedures and techniques by which the researcher collects and analyses data (Crotty, 1998). Figure 4.1 presents an overview of the theoretical framework for this study.

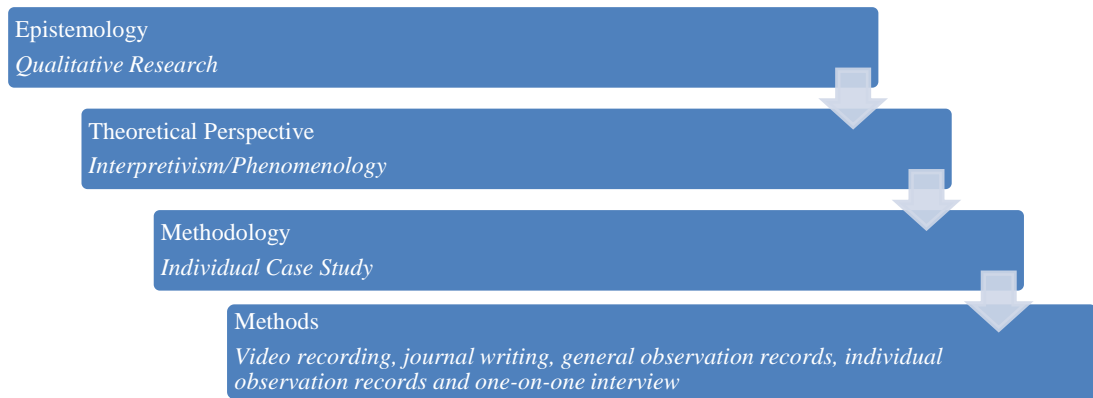


Figure 4.1. Theoretical Framework for the Research Study (Based on Crotty, 1998)

4.2.1 Epistemology

The epistemology underpinning the study into the effect of Montessori pedagogy in a remote Aboriginal Early Childhood program is that of qualitative research. Qualitative research is the “collection, analysis, and interpretation of comprehensive narrative and visual data in order to gain insights into a particular phenomenon or interest” (Gay, Mills & Airasian, 2006, p. 398). Qualitative research attempts to establish “how things are happening, rather than merely what is happening” (Stringer, 2007, p. 19). Qualitative research provides an insight into a particular group or environment (Bryman, 2008) and aims to discover the significance of a specific social context (Bogdan & Bilkin, 1992). This research into Montessori pedagogy occurs in the natural environment of the Ngaanyatjarra Lands School Network, Papulankutja Campus (Creswell, 2003).

There are various approaches to conducting qualitative research. The approach emphasised in this research into Montessori pedagogy in a remote Aboriginal Early Childhood program is that of interpretivism, which aims “to understand individual human action either in terms of their daily interactions and common-sense ideas or in the context of the wider culture” (O’Reilly, 2008, p. 57). Interpretivist research seeks to establish connections in the data through patterns and common features (Gay, Mills & Airasian, 2006). Specifically, the teacher-researcher sought to meaningfully understand the participants in their day-to-day life (Neuman, 2011). That is, consistent with an interpretivist approach, this study attempts to understand the lived experience of remote Aboriginal Early Childhood students in a Montessori teaching and learning environment.

4.2.2 Theoretical Perspective

Within interpretivism, various theoretical perspectives or lenses exist that highlight different components of human behaviour (Creswell, 2003). The approach used in this research into Montessori pedagogy in a remote Aboriginal Early Childhood program is that of phenomenology. Phenomenology is defined as “an approach that concentrates on the study of consciousness and the objects of direct experience” (Oxford University Press, 2016). Fraenkel and Wallen (2003) explained that phenomenologists “generally assume that there is some commonality to the perceptions that human beings have in how they interpret similar experiences, and phenomenologists seek to identify, understand, and describe these commonalities” (p. 437). By adopting a phenomenologist perspective, the teacher-researcher sought to describe the common “essential characteristics” (Stringer, 2007) of the Montessori pedagogy implemented in the remote Aboriginal Early Childhood program.

4.3 METHODOLOGY

4.3.1 Case Study

Within a case study research design, “a particular individual, program, or event is studied in depth for a defined period of time” (Leedy & Ormond, 2001, p. 149). Case study research aims to understand the specific individual, program or event to advise practice for comparable settings (Leedy & Ormond, 2001). Data collection methods in a case study can include observation, interviews and audio and video recording. The teacher-researcher selected a case study approach because she aimed to understand the effects of a specific phenomenon, Montessori pedagogy in a remote Aboriginal Early Childhood class (Baxter & Jack, 2008). In particular, the focus of this case study was to understand the lived reality of the participants (Leedy & Ormond, 2001). The participants in this study were children in a remote Aboriginal Early Childhood class educated within Montessori pedagogy.

4.3.2 Individual case study

There are various approaches to a case study. These approaches include: individual, intrinsic, collective and instrumental case study (Stake, 1994). Specifically, this research is based on an individual case study. Berg (2007) stated that an individual case study aims to “systematically gather enough information about a particular person, social setting or event, or group to permit the researcher to effectively

understand how the subject operates or functions” (p. 283). This particular research was an individual case study that intended to provide a “snapshot” (Rose, 1991) of a remote Aboriginal Early Childhood class. This study aimed to deliver a “detailed and objective study of one research entity at one point in time” (Berg, 2007, p. 293). The teacher-researcher sought to accurately capture daily activities of the participants in order to examine a specific phenomenon, Montessori pedagogy within a remote Aboriginal Early Childhood setting.

There are, however, various criticisms of an individual case study methodology. Two main criticisms include the issue of generalisability and the concern of subjectivity (Fong, 2008; Leedy & Ormond, 2001; Myers, 2000; Stringer, 2007). These criticisms will now be addressed.

4.3.2.1 Generalisability

Myers (2000) defined generalisability as “the degree to which the findings can be generalised from the study sample to the entire population” (p. 2). An individual case study can be unreliable due to a potentially small sample size, which makes it difficult to provide relevant research to a wider audience (Myers, 2000). The teacher-researcher acknowledged that the sample size was small. However, the number of students in this study is representative of Early Childhood classes in the Ngaanyatjarra Lands School Network. The Early Childhood class in this study is typical of other Early Childhood classes in remote Aboriginal communities in the central western desert of Australia.

4.3.2.2 Subjectivity

Subjectivity can be defined as “the ways that research is shaped by the particular perspective, interests and biography of the researcher” (Fong, 2008, p. 1). An individual case study can be influenced by the researcher’s personal bias and perception. Three methods were used to address the issue of subjectivity. These were: the use of the verbatim principle, bracketing and triangulation. The teacher-researcher firstly applied the “verbatim principle” (Stringer, 2007) where she recorded participants’ responses, behaviours, language development and community interactions. The verbatim principle uses expressions taken directly from the

participants (Stringer, 2007). In this respect, the teacher-researcher recorded statements word-for-word from the teacher-researcher, critical friend and informant.

The second method the teacher-researcher used to address the concern of subjectivity was bracketing. Bracketing is a “method used in qualitative research to mitigate the potentially deleterious effects of preconceptions that may taint the research process” (Tufford, 2010, p. 81). Every human being has a set of values through influences such as culture, personality and socioeconomic status (Burkitt, 1997). Furthermore, Stringer (2007) noted that, “those involved in data analysis must “bracket” their own understandings, intuitions, or interpretations as much as possible and focus on the meanings that are inherent in the world of the participants” (pp. 98-99). The teacher-researcher used bracketing to ensure the data was accurately and honestly recorded. Bracketing enabled the teacher-researcher’s own preconceptions to not “taint the research process” (Tufford, 2010, p. 81).

Within this study, the teacher-researcher used a reflective journal as a means of bracketing to explore areas of possible conflict. Specifically, the teacher-researcher employed the practice of reflexivity during the journal writing data collection process to not ‘taint’ the research. Reflexivity can be defined as “the capacity of any system of signification to turn back upon itself, to make itself its own object by referring to itself” (Meyerhoff & Ruby, 1992, p. 307). To evaluate her own values, the teacher-researcher sought to understand the “effects of one’s experiences rather than engaging in futile attempts to eliminate them” (Ahern, 1999, p. 408). During the preparation of this study, the teacher-researcher used a reflective journal to record personal issues that may be taken for granted, her own personal value system and feasible areas of role conflict (Ahern, 1999). A reflective journal provided the teacher-researcher with a concrete tool to “explore areas of potential conflict, interest and feelings that may affect a “lack of neutrality” (Ahern, 1999, p.408). In such a manner, the teacher-researcher employed reflexivity to bracket her perceptions of the Papulankutja Early Childhood class.

Finally, the teacher-researcher employed a method of triangulation. Stringer (2007) argued that “the credibility of a study is enhanced when multiple sources of information are incorporated” (p. 58). During this study, the teacher-researcher used

two forms of triangulation. These were multiple source triangulation and triangulation based on multiple data-gathering techniques (Berg, 2007). The multiple sources in this study were the participants, teacher-researcher, critical friend and informant (Creswell, 2003). The critical friend provided data through the ten observational frameworks. The informant provided data through three one-on-one interviews. The data from the critical friend and informant were cross-checked to confirm or deny the teacher-researcher's observations of the participants' responses (Creswell, 2003). The multiple data-gathering techniques included video recording, journal writing, general observational frameworks, individual observational frameworks and one-on-one interviews (Berg, 2007). In these ways the teacher-researcher attempted to be transparent and true to the data.

4.4 DATA COLLECTION

Four methods of data collection were used in the individual case study on the Ngaanyatjarra Lands School Network, Papulankutja Early Childhood class. These were:

- a) Video recording and observational framework by the teacher-researcher
- b) Journal writing by the teacher-researcher
- c) Ten observational frameworks by the critical friend
- d) Three one-on-one interviews with the informant.

The teacher-researcher video recorded the classroom activities various times a week to document daily events. The data were recorded using the observational framework. The teacher-researcher maintained a journal throughout the study recording her annotations and impressions of how the participants' in the remote Aboriginal Early Childhood class responded to Montessori pedagogy. The critical friend observed the classroom and completed observational records. The informant was engaged to assist with the interpretation of events from an Ngaanyatjarra perspective.

4.4.1 Video recording and observational framework by the teacher-researcher

4.4.1.1 *Video recording*

Video recording can be defined as "A device which, when linked to a television set, can be used to record programmes and play videotapes" (Oxford University Press, 2016). Video recording allowed the teacher-researcher to observe and record the essential elements such as "activities, events, or locations observed, related to

which people, how, at what time, for how long” (Stringer, 2007, p. 178). Observation can be defined by “simply watching the participants” (Gay, Mills & Airasian, 2006, p. 413). Observation can be conducted through two processes: participant observation and nonparticipant observation. Video recording permitted the teacher-researcher to observe in a nonparticipant manner and provide a comprehensive detail of observations. Observing the video recordings from a nonparticipant perspective, the teacher-researcher sought to record the essential elements such as “places, people, objects, acts, activities, events, purposes, time and feelings” (Stringer, 2007, p. 76). During the data collection period video recording occurred three times a week for between one to two hours at different times in the Early Childhood class to gather a diverse range of data. At the end of each day, the teacher-researcher played back the video recording to observe events and activities in the classroom. Essential elements were recorded with the use of an observational framework.

4.4.1.2 Observational framework (Appendix A)

An observational framework can be described as a “compass or roadmap that will enable practitioners to keep track of ... research processes” (Stringer, 2007, p. 89). In the evening, the teacher-researcher would watch the video recording and complete the observational framework to accurately record the events and activities in the program. The observational framework provided a structure to compile an uncompassionate account of the program, participants and events (Stringer, 2007). The teacher-researcher used a reflective process when recording information on the observational framework. Reflexivity is defined as “the capacity of any system of signification to turn back on itself, to make itself its own object by referring to itself” (Meyerhoff & Ruby, 1992, p. 307). The teacher-researcher engaged in the process of reflexivity by reviewing the video recordings each evening and making notes in a non-participant manner. The importance of this strategy lies in the need to provide accurate and non-biased data for the study.

4.4.2 Journal writing by the teacher-researcher

A journal can be used on-site to gather, record and compile data during the collection period (Gay, Mills & Airasian, 2006). Journal writing enables a researcher to record clear, extensive data and to outline a comprehensive account of all the relevant details (Gay, Mills & Airasian, 2006; Stringer, 2007). Writing a journal assisted the

teacher-researcher to consciously record the events in the Early Childhood program. In particular, detailed records of day-to-day routines, occurrences, teaching practices and learning processes were compiled in the journal. At night, the teacher-researcher would add to the journal after watching the video recordings. When writing in the journal, the teacher-researcher used bracketing to ground her analysis and view events from the participants' perspective. Bracketing enabled the researcher to 'see' the situation instead of being involved (Stringer, 2007). Journal writing occurred twice a week for one to two hours at different selected times to gather a diverse range of data.

4.4.3 Ten observational frameworks by the critical friend

The third method of data collection involved the critical friend. There were two elements to this form of data collection: general observational framework and individual observational framework. The critical friend completed five general observational frameworks (Appendix B) and five individual observational frameworks (Appendix C). The critical friend was part of the Ngaanyatjarra Lands School Network Leadership Team and has over 30 years of teaching experience in remote Aboriginal education and mainstream education. Standard Australian English (SAE) is the critical friend's first language. The critical friend was not Montessori trained nor had any interaction or affiliation with Montessori pedagogy prior to the study. The critical friend observed the classroom for two hours every three weeks of the data collection period.

4.4.3.1 *General observational framework (Appendix B)*

The general observational framework provided a structure for the critical friend to observe and record Early Childhood program participants. The general observation framework was divided into four Montessori teaching and learning practices: role of the classroom, role of Montessori materials, role of the teacher, and role of the students. The critical friend was asked to comment on two areas. Firstly, the difference between Montessori teaching and learning practices and mainstream teaching. Secondly, in what ways Montessori pedagogy supported remote Aboriginal education. The critical friend completed five general observational frameworks.

4.4.3.2 *Individual observational framework (Appendix C)*

The individual student observational framework specified a structure for the critical friend to observe and record a single participant in the Early Childhood program.

Within the individual student observational framework, the critical friend was asked to describe the participant's current work and circle the best description of the work. Descriptions were divided into sections: work type, presentation type, start, engagement and finish. In addition, the critical friend was asked to circle the behaviours the participants were exhibiting in the program. These behaviours were: independence, purposefulness, orderliness, persistence and altruism. The critical friend completed five individual observational frameworks.

4.4.4 Three one-on-one interviews with the informant

The final method of data collection used was one-on-one interviewing. The interviews with the informant were unstructured. Unstructured interviews are based on questions that are provoked by the flow of the interview (Gay, Mills & Airasian, 2006). The informant observed three times in the Early Childhood class over the data collection period. After class, the teacher-researcher and informant carried out the one-on-one interview in an informal setting. Interviews with the informant were video recorded and transcribed after each interview had occurred. Data collection occurred for two hours spread over the data collection period (weeks three, six and nine) to provide a bilingual understanding and insight into student and community life. The interviews presented an opportunity for the informant to detail the situation using her own words and terminology (Stringer, 2007). The informant was interviewed to ascertain her perceptions of the students' attitudes to school life and Montessori pedagogy. Questions during the interview included:

- From observing in the classroom today, what do you like about Montessori pedagogy?
- From your discussions with parents and caregivers, do you see Montessori pedagogy continuing into Papulankutja Early Childhood students' home life?
- From your discussions with parents and caregivers, do they feel safe and valued coming into their child's classroom and working with them to learn?
- From your discussions with Aboriginal and Islands Education Officers' (AIEO), do they enjoy coming to work in the Montessori pedagogy classroom? Do they feel valued?
- From your experience in the Ngaanyatjarra Lands, do you think Montessori pedagogy works well with the itinerant nature of remote Aboriginal students?

- From your discussions with parents and caregivers, are Montessori materials assisting the Early Childhood students with their home language, Ngaanyatjarra?
- From your observations in the Papulankutja Early Childhood Class, do you think it is good that students work independently?
- From your observations in the Papulankutja Early Childhood Class, do you think Montessori pedagogy aligns with traditional Aboriginal child rearing practices?

The informant was an elder of the Ngaanyatjarra Lands and is the Aboriginal Liaison Officer for the Ngaanyatjarra Lands School Network. The informant was aware of the aims of Montessori pedagogy in the Papulankutja Early Childhood program and had communicated these aims to parents and caregivers of the students. Similarly to the students, Standard Australian English (SAE) was the informant’s third or fourth language. The informant outlined cultural beliefs and practices that may have impacted the participants’ responses to Montessori pedagogy.

4.5 RESEARCH PARTICIPANTS

There was a total of 18 students in the class, 17 were Indigenous and these 17 formed the participants of this study. These students ranged from Kindergarten to Year 2. The participants were composed of 10 female students and 7 male students as shown in Table 4.2. The participants are representative of the Early Childhood students living in remote Western Australia and in the Ngaanyatjarra Lands School Network.

Table 4.2

Participants of the research

	<i>Age</i>	<i>Female</i>	<i>Male</i>	<i>Percentage of students in each year level</i>
Kindergarten	4	4	2	35%
Pre-Primary	5	1	1	12%
Year 1	6	3	2	29%
Year 2	7	2	2	24%
Total	-	10	7	100%

Note: Year levels are outlined in correlation to Department of Education Western Australian standards.

The participants did not speak Standard Australian English (SAE) when they first attended formal schooling. In the classroom, the teacher-researcher used the participants' home language, Ngaanyatjarra, for instructional and verbal interaction. The participants do not know basic English terms for classroom objects, actions or communication. SAE will often be a third or fourth language to the Indigenous participants.

Similarly to the students, parents and/or caregivers of the Aboriginal participants often use SAE as a third or fourth language. Parents and/or caregivers frequently have little or no secondary education and simple tasks such as completing compulsory government department forms and applications are not possible without assistance. The participants' parents, caregivers and families have transitioned from a nomadic hunter-gather lifestyle in the 1940's to mission-based living to the present time (Brooks, 2015).

The participants typically walk to school from their homes. The Aboriginal participants have large extended families living in the community and often do not reside in the same home as their parent(s) or legal guardian. Due to the transient nature of remote communities, participants will often travel to other communities for significant cultural events such as funerals, men's business, women's business, sporting events and cultural programs such as painting and dancing. The selected students, however, generally return to the Papulankutja Remote Community once a particular event ends.

4.6 TRUSTWORTHINESS

Qualitative researchers use a comprehensive process to ensure the study is conducted in a trustworthy manner. Trustworthiness is vital during the research to provide accuracy of the results from the situation of the "researcher, the participant, or the readers" (Creswell, 2009, p. 191). Trustworthiness consists of four criteria: credibility, transferability, dependability and confirmability (Stringer, 2007). Table 4.3 details the procedures used in this study to establish trustworthiness.

Table 4.3

Establishing trustworthiness (Adapted from Stringer, 2007, p.58)

<i>Quality criterion</i>	<i>Research technique</i>
Credibility	Triangulation Member checking
Transferability	Detailed description of the phenomenon researched
Dependability	Audit trail
Confirmability	Triangulation Reference to the researcher’s beliefs and assumptions In-depth methodological description

4.6.1 Credibility

Credibility provided reliability and plausibility to this study (Stringer, 2007). Two techniques can be used to assist credibility (Bryman, 2008). These are triangulation and member checking. Triangulation refers to making “use of multiple and different sources, methods, investigation, and theories to provide corroborating evidence” (Creswell, 1998, p. 202). The teacher-researcher used two methods of triangulation: multiple source triangulation and multiple data-gathering techniques (Berg, 2007). The multiple sources in this study were the participants, teacher-researcher, critical friend and informant (Creswell, 1998). Multiple data collecting techniques included teacher-researcher observational and journal writing, critical friend observational framework (general and individual) and informant observation followed by one-on-one interview.

The second technique used to ensure credibility was that of member checking. Member checking refers to “participants are given opportunities to review the raw data, analyses, and reports derived from research procedures” (Stringer, 2007, p. 58). Member checking was used by the teacher-researcher to confirm the accuracy of the results with the critical friend. The critical friend reviewed the final general and individual frameworks to ensure her observations in the Montessori pedagogy Early Childhood program were precisely represented.

4.6.2 Transferability

The second demand of trustworthiness is transferability. Transferability is the ability to move the research into other settings or contexts (Stringer, 2007). This research was specific to a particular remote Aboriginal Early Childhood classroom. However, the sample size is representative of other Early Childhood classes in the Ngaanyatjarra Lands School Network. Hence therefore, the findings can be transferred to other remote Early Childhood contexts. In this study the teacher-researcher aimed to provide “thick descriptions” for the benefit of other readers and in doing so enhance the possibility for transferability (Guba & Lincoln, 1985, p. 316). Furthermore, the teacher-researcher delivered a detailed outline of the context in Chapter Two. Readers are able to self-evaluate the possibility of transferability within their own contexts.

4.6.3 Dependability

Dependability is providing a “detailed description of the research process” (Stringer, 2008, p.53). Dependability ensured research processes were clearly outlined and open to examination (Stringer, 2007). The teacher-researcher attempted to be transparent and provide detailed information to ensure another researcher would reach a similar conclusion to this study (Stringer, 2007). Specifically, to ensure the research could be repeated, the teacher-researcher implemented an “auditing approach” (Bryman, 2008, p. 379). All documentation for each step of the research process is stored to ensure procedural dependability. The documentation includes raw data of video recording of the classroom, journal entries, general observational frameworks, individual observational frameworks, video recordings of one-on-one interviews, interview transcripts and documentation of the process of organisation and classification of raw data synthesis.

4.6.4 Confirmability

The final criterion of trustworthiness is confirmability. Confirmability, suggests the level at which the results of the study “actually took place” (Stringer, 2007, p.59). In qualitative research, confirmability refers to the researcher’s ability to be objective (Shenton, 2004). Techniques used to ensure confirmability include triangulation and procedures of an audit trail. These techniques limit the potential for researcher bias. The teacher-researcher of this study attempted to carry out procedures to establish documentation of the data analysis process. In addition, Chapter One

outlines a personal statement of the teacher-researchers beliefs and assumptions in relation to this study.

4.7 DATA ANALYSIS

Data analysis is the process by which raw data is organised and summarised. The method of analysis for the qualitative data followed a format similar to that outlined by Miles and Huberman (1994) comprising data collection, data reduction, data display and verification/conclusion drawing. Figure 4.2 provides an overview of the data analysis.

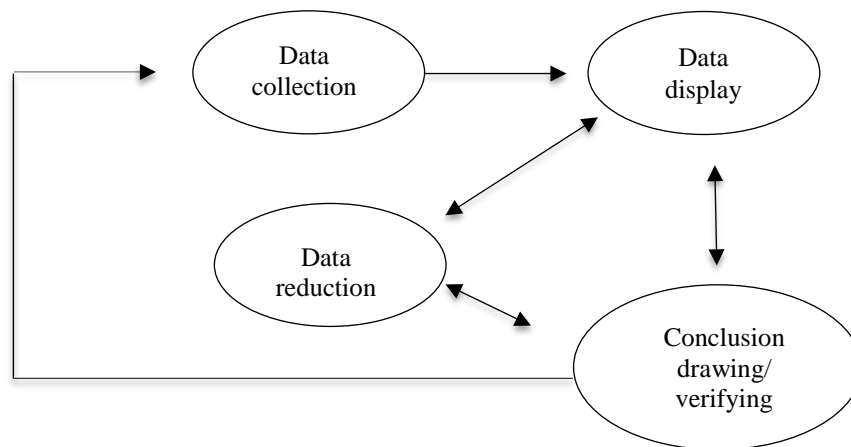


Figure 4.2. Overview of Data Analysis (Based on Miles & Huberman, 1994).

Data reduction is the process of organisation and classification. The data reduction process aimed to be a systematic examination of the data collected (Leedy & Ormond, 2001) and to develop understanding of the phenomenon being researched (Hsieh & Shannon, 2005). The teacher-researcher gathered and colour-coded the raw data to draw common themes or key words. The teacher-researcher colour-coded the data to identify common themes, patterns, symbols, topics and shared mind-sets. Within the study, the teacher-researcher interpreted the words and format for deeper meaning and symbolism rather than counting the number in content analysis (Berg, 2007; Payne & Payne, 2004).

Data display provides “an organised, compressed assembly of information that permits conclusion drawing and action” (Miles & Huberman, 1994, p. 11) Data displays can be presented in a chart, diagram or matrix format. The teacher-researcher used a

chart format to organise and classify the themes and key words evident in the data under the four specific research questions specific to this study. These four specific research questions were used as an initial form of data organisation providing a target for the collection of data in the chart (Miles & Huberman, 1984). The data display presented key themes within the data. Table 4.4 outlines the key themes.

Table 4.4

Key themes within the collection of data

Specific Research Question 1: <i>Student Response</i>	<ul style="list-style-type: none"> • Concentration and engagement • Student autonomy • Independence
Specific Research Question 2: <i>Student Behaviours</i>	<ul style="list-style-type: none"> • Suits students with high transiency • Student altruism and persistence • Peer teaching/peer modeling
Specific Research Question 3: <i>Language Development</i>	<ul style="list-style-type: none"> • One on one learning • Aboriginal and Islander Education Officers [AIEO] Participation • Montessori curriculum and development
Specific Research Question 4: <i>Community Involvement</i>	<ul style="list-style-type: none"> • Visits from parents and caregivers • Classroom environment and structure

The final phase of data analysis is verification/ conclusion drawing. This phase of the data analysis process requires the researcher to reflect and understand the results of the research. The process of reflection and understanding may take an extended period of time (Miles & Huberman, 1984).

4.8 ETHICAL CONSIDERATIONS

The research was conducted in accordance with the guidelines of: (a) The University of Notre Dame Australia, (b) the Department of Education Western Australia regulations of confidentiality and parental/caregiver consent and (c) the Ngaanyatjarra Lands Council approval for Research. Approvals were sought and obtained from the Human Research Ethics Committee at UNDA (Appendix D), Department of Education Western Australia (Appendix E) and the Ngaanyatjarra Lands Council (Appendix F). The students, parents/caregivers and school staff were guaranteed anonymity. Throughout the research, names were not used. Relevant information was provided to

parents/caregivers of the students to ensure they were fully aware of the research purpose. Parents and caregivers of the participants received information sheets with a Ngaanyatjarra translation and consent forms with a Ngaanyatjarra translation to obtain informed consent (Appendix G). All journal entries, interview transcripts, observation frameworks and other data collected throughout the study are stored in secure facilities at the research office at The University of Notre Dame Australia for the next five years. All video recordings collected were for teacher-researcher reflection and not for public viewing. They are kept in secure facilities at the research office at The University of Notre Dame Australia for five years and will be destroyed thereafter.

4.9 DESIGN SUMMARY

Table 4.5 presents a chronological summary of the research design.

Table 4.5

Chronological summary of Research Design

<i>Schedule</i>	<i>Source</i>	<i>Activity</i>
August 2013	UNDA	Ethics clearance
October 2013	Department of Education Western Australia	Director’s approval to undertake research in a Department of Education Western Australia school
October 2013	Parents and caregivers of participants’	
October to December 2013	Participants’, critical friend and informant	Data collection through video recording, observational frameworks and one-on- one interviews carried out for those wishing to participate in the inquiry
January to December 2014		Analysis of data
January 2015 to July 2016		Draft report
August 2016		Submit thesis

4.10 CONCLUSION

The research sought to explore the effect of Montessori pedagogy within a remote Aboriginal Early Childhood classroom. This chapter explained the research design that underlined and directed the study. The chapter provided justification for the

use of interpretivism as the theoretical perspective of this qualitative research and outlined the reasons for selecting an individual case study. Consideration was also given to explaining the use of data collection methods and data analysis practices. The following chapter will present the data on the four central categories of student response; student behaviour; language development; and community involvement within the remote Aboriginal Early Childhood class observed in this study. The data presented for each category will address the four specific research questions.

CHAPTER FIVE

PRESENTATION OF RESEARCH FINDINGS

5.1 INTRODUCTION

The purpose of this chapter is to present the research findings of this individual case study into the effect of Montessori pedagogy in a remote Aboriginal Early Childhood program. These findings were the synthesis of four qualitative data collection methods: video recording by the teacher-researcher, journal writing by the teacher-researcher, ten observational frameworks by the critical friend and three one-on-one interviews with the informant. The findings are presented in terms of the four questions of the research, namely:

1. In what ways do Aboriginal students respond to Montessori pedagogy within a remote Early Childhood program?
2. In what ways has Montessori pedagogy impacted on student behaviour within a remote Aboriginal Early Childhood program?
3. In what ways has Montessori pedagogy impacted on language learning and development within a remote Aboriginal Early Childhood program?
4. In what ways has Montessori pedagogy engaged community members to interact within a remote Aboriginal Early Childhood program?

As previously stated, the critical friend was part of the Ngaanyatjarra Lands School Network Leadership Team and has over thirty years of teaching experience in remote Aboriginal education and mainstream education. Standard Australian English (SAE) is the critical friend's first language. The critical friend was not Montessori trained nor had any interaction or affiliation with Montessori pedagogy prior to the study. The informant was a Ngaanyatjarra person, native speaker and Aboriginal Liaison Officer employed by the Ngaanyatjarra Lands School Network. The informant was not trained by, nor had any affiliation with, Montessori pedagogy. SAE was an additional language for the informant. The teacher-researcher used the direct quotations from the informant's one-on-one interviews. All responses during the data collection period were not edited and remain true to the informant's statements. Permission was granted by parents and caregivers for all pictures used in this section of the research.

5.2 RESULTS OF THE STUDY

The research findings have been organised into four central categories in relation to the four research questions: student response, student behaviours, language development and community involvement. Table 5.1 provides an overview of the presentation of findings.

Table 5.1

Overview of the Presentation of Findings

Research question one: <i>Student response</i>	<ul style="list-style-type: none">• Concentration and engagement• Student autonomy• Student independence
Research question two: <i>Student behaviours</i>	<ul style="list-style-type: none">• Suits students with high transiency• Student persistence• Peer modelling
Research question three: <i>Language development</i>	<ul style="list-style-type: none">• One-on-one learning• Aboriginal and Islander Education Officers (AIEO) participation• Montessori curriculum and development
Research question four: <i>Community involvement</i>	<ul style="list-style-type: none">• Visits from parents and caregivers• Classroom environment and structure

5.3 RESEARCH QUESTION ONE

In what ways do Aboriginal students respond to Montessori pedagogy within a remote Early Childhood program?

Three key themes were evident in the data collected by the teacher-researcher, critical friend and the informant. These were: concentration and engagement; student autonomy; and student independence. The following three sections describe the teacher-researcher, critical friend and informant observations of the student responses to Montessori pedagogy specific to research question one. Figure 5.1 presents the three themes within research question one.

Three themes within research question one: Student response to Montessori pedagogy

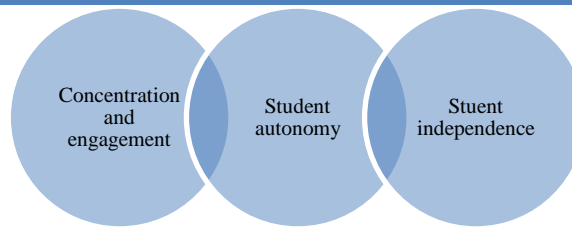


Figure 5.1. Three themes within research question one: Student response to Montessori pedagogy.

5.3.1 Concentration and engagement

The first theme evident in the student response to Montessori pedagogy was concentration and engagement. Concentration is defined as the ability to focus all of one's attention on a task whilst engagement is viewed as the ability to stay on task and make meaningful connection with the experience (Oxford University Press, 2014). The theme of concentration and engagement was frequently commented on during the data collected.

5.3.1.1 *Teacher-researcher observations*

The teacher-researcher identified increased concentration levels within the classroom environment. Using Montessori pedagogy, the teacher's structure of the learning program enabled the students in this study to select work of interest. The students observed within the Early Childhood Montessori classroom had a sound understanding of the classroom routine and exhibited concentration and engagement in their learning experiences. Specifically, the teacher-researcher described the environment whilst students were completing a three-hour work period. Figure 5.2 depicts the classroom observed in this study during a three-hour work cycle. The image was taken during a video recording session by the teacher-researcher.



Figure 5.2. Screen shot of the video recording taken by the teacher-researcher of the Papulankutja (Blackstone) Early Childhood classroom (from researcher's own collection).

During the three-hour work period, students were given a large period of time to carry out their own activity and repeat it as many times as necessary (Cossentino, 2006) as shown in the observation below:

The students quickly moved to their chosen work. Some decided to sit on the floor with a mat and others at a table. There was minimal classroom noise and when students were interacting, it was generally done in Ngaanyatjarra (home language). Some students were working alongside others sitting at tables or on the floor to complete their work. One student was wandering around the room trying to decide which work she wanted to complete. The teacher guided the student to a work of interest and developmental appropriateness.

The teacher-researcher detailed the learning experience of a seven-year old student during another three-hour work period:

The student collected a mat from the basket and rolled it out on the floor. Independently the student selected a work and began carrying the pink tower material one at a time from the sensorial shelf. The student concentrated on the work for thirteen minutes independently. She was ordering the ten pink wooden cubes increasing progressively through the algebraic series of the third power, 1cm^3 to 10cm^3 . She completed the work horizontally and vertically before beginning to pack away. She packed away, one cube at a time ready for the next student. She completed

the full learning cycle and moved to find the next work. She selected a practical life work and sits at a table.

From the data recorded by the teacher-researcher, the student was engaged in the learning activity and displayed a sustained length of concentration completing the work task. The pink tower provided the child with a sensorial impression of dimensions: length, height and width. The photo included is evidence of the pink tower task as the student completed this work. The task termed Practical Life work provided students with real life skills like care of the environment, and care of self. Examples of these learning tasks included the washing of hands, washing of clothes, cleaning furniture and pouring of liquids. A photo of the material that is a part of the Practical Life work are included to demonstrate the uniqueness of the Montessori materials. Figure 5.3 depicts a child within the Papulankutja (Blackstone) Early Childhood cohort completing the pink tower and Figure 5.4 depicts a child within the Papulankutja (Blackstone) Early Childhood cohort completing the brushing teeth exercise from Practical Life materials.



Figure 5.3. Student of the Papulankutja (Blackstone) Early Childhood cohort completing the pink tower (from researcher's own collection). *Figure 5.4.* Student of the Papulankutja (Blackstone) Early Childhood cohort completing the brushing teeth exercise in Practical Life (from researcher's own collection).

5.3.1.2

Critical friend observations

The critical friend repeatedly commented during the data collection period on the concentration levels of students observed in this study. Specifically, the critical friend stated, "The class is quiet, each child is working independently on their own task." During an observation period, the critical friend noted two students engaging in negative classroom behaviour. However during this period of disruption, the critical

friend observed another student in the class who remained engaged and concentrated on his work. Although the child occasionally observed at the negative behaviour, he continued to focus in his work. The critical friend commented:

The student independently chose a work at a table. Two peers were in a power struggle and were teasing each other. The student was watching intermittently. He was working and often interrupted by other students however; he returned straight back to his work.

From the comment of the critical friend, it is evident that within the classroom environment negative distractions arise for students. However within the classroom observed in this study, distractions were minimalised as students independently selected their work and subsequently were more likely to concentrate on a work of interest rather than engage in the disruptive behaviour.

5.3.1.3 Informant observations

During the data collection period the informant described the Montessori environment observed as, “Learning without anyone else humbugging (interfering/interrupting) them.” The informant commented on the difference between the concentration and engagement of students in a Montessori classroom and those of a non-Montessori classroom.

The difference in Montessori is when *tjitji* (child) come in (to the classroom) and they (the child) chose what they want to do. They really focus on what they trying to do. The teacher can come, sit down and work with the *tjitji* (child). There is no other humbugging cause they’re (the other students) all doing other work (pointing around the different parts of the room). They are making their choice because they interested.

The informant commented on the students interest and sense of control within the learning environment. Student’s observed within the Montessori classroom in this study, displayed mannerisms of autonomy and as a result each student was more likely to engage in their work.

5.3.2 Student autonomy

As presented in figure 5.1, the second theme evident in student responses was student autonomy. Autonomy is defined as “freedom from external control or influence” (Oxford University Press, 2014). Traditional child rearing practices of remote Aboriginal families encourage children to be autonomous (Australian

Government, Department of Social Services, n.d.). Children are able to make autonomous choices from a young age. Therefore, issues may arise for Aboriginal parents and teachers when preparing students for a more formalised school environment. In relation to the classroom observed, the critical friend stated, “Students are naturally autonomous and (the Montessori classroom) does not conflict with their autonomy”. The critical friend further added that this Montessori classroom appears to be student centered and aligns with Aboriginal students, as he or she is “already autonomous.” The teacher-researcher, critical friend and informant frequently commented on the link between the students’ response to Montessori pedagogy and the student autonomy. It was felt that Montessori pedagogical teaching and learning practices supported remote Aboriginal students’ ‘natural’ autonomous traits congruent with traditional child rearing techniques given by parents and caregivers in the home environment.

5.3.2.1 *Teacher-researcher observations*

Within the Montessori environment observed in this study, students were able to select their own work. Works were presented in a sequential order. During the daily three-hour work period, the students were autonomous in selecting the location of where to work, what material to work with, the length of time to stay with work and the frequency of repetition. The teacher-researcher observed and recorded data of a student who had verbally requested to be shown the presentation of the hundred board work. However, Montessori materials are presented in a succession. The teacher-researcher worked one-on-one with the student to complete the sequence of materials to arrive at the child’s interest, this being the hundred board. Within the Montessori environment, the teacher-researcher recorded an example of a student’s independent desire to learn. Through the student’s desire to learn, the teacher-researcher was able to plan and program for learning enabling independent student success. A photo of the hundred board is included to give a context to this example (Figure 5.5).



Figure 5.5. Student of the Papulankutja (Blackstone) Early Childhood cohort completing the hundred board (from researcher’s own collection).

5.3.2.2 *Critical friend observations*

The critical friend identified student autonomy as a key theme in the Montessori classroom observed. Whilst completing a general observational framework the critical friend was asked to comment on, “How do you think Montessori can support Aboriginal education?” The critical friend responded that the students’ “natural autonomy” was catered for within the Montessori classroom. Through the routines of the Montessori classroom, students’ were able to autonomously select work. The critical friend noted, “The role of the student is again, autonomous and social collaboration is not forced”. Furthermore, the critical friend used a coloured pen to highlight the terms frequently recorded on the individual observation framework to represent the student responses within the classroom. These terms included the phrases “independent choices”, “working independently” and “packed away independently”. The critical friend frequently noted students responding “independently” or “autonomously” in the classroom observed in this study.

5.3.2.3 *Informant observations*

The informant identified student autonomy as a key theme in the Montessori classroom observed. The informant stated, “They (the students’) chose what they want to do” and further explained:

Yuwa (yes), its freedom. It gives them freedom and choice. When the student coming in they saying, “I’m going over there and I’m going over there do this”. Without the teacher saying you doing this, you doing this. It’s their choice.

The informant confirmed that Aboriginal students’ in the Ngaanyatjarra Lands School exercise large levels of autonomy in their home life. The Montessori classroom provided consistency of autonomy from the students’ home life to the students’ learning environment. Ngaanyatjarra children exercise autonomy by freely moving around the streets of the community without parental supervision. From the age of approximately four-years old, children independently explore the community town site and this is viewed as an acceptable and cultural practice.

5.3.3 Student Independence

The third theme evident in the student responses was independence. Independence is defined as the ability to act without the control of authority, in a state of autonomy (Oxford University Press, 2014). Within the Montessori program, students were able to exercise control and independence over their learning. The teacher-researcher commented:

The five-year old student was sitting at a single table completing a creative work, painting. She chose the work herself, collected the work on a tray from the shelf, and collected a fresh glass of water. The student was working quietly, not interrupting the other student who sat across from her. The student worked on the activity for six minutes. She completed the full learning cycle by hanging her painting on the drying rack, washing the brush and cup for the water and placing all the materials back on the tray. She stood and placed the work on the shelf ready for the next student.

The teacher-researcher noted, “The five-year old student independently takes a mat, rolls it on the floor and commences the pink tower sensorial work.” Students were able to decide and select what work he or she would like to complete throughout the day. Within the Montessori teaching and learning environment, it is expected that the work students select they will complete. Although there are numerous materials around the classroom, it is the role of the teacher to direct the student to a work of

developmental appropriateness and of interest if necessary for teaching and learning. The observation documented above is evidence of how this pedagogy of Montessori was enacted in this Early Childhood classroom.

5.3.3.1 *Teacher-researcher observations*

In the observations during the data collection period, the teacher-researcher identified six key terms used to describe the students movements in the Montessori program: “student collects”, “student chooses”, “student sets up”, “the student independently...”, “student selects” and “the student packs away”. These descriptions used by the teacher-researcher highlighted the students’ independence where they were able to carry out their own choices of tasks in the teaching and learning environment. Within the Montessori program, students were able to pause a work task and return when they pleased. Over the period of time, other students were not allowed to disturb or manipulate the work of another student. The teacher-researcher described an example with a six-year old student, which occurred as followed:

The student was now ready for the hundred board work. In this session, the teacher showed the student the location of the work in the classroom, how to unpack it and set it up for use. The teacher and student began with denominations of 10 (10, 20, 30 etc.), then the 1’s, 10’s, 20’s and so on. After fourteen minutes, the student indicated she is getting tired and would like to pause the work. The student collected her laminated name from the wall and places it at her desk. Subsequently, no other students were allowed to touch this work.

The next day the teacher-researcher recorded, “The student has independently selected to return and continue the hundred board work, concentrating on the work for thirty-two minutes.” The student’s independent desire to revisit and complete the work from the previous day allowed her to successfully master the educational outcome of recognition, ordering and understanding of numbers one to one-hundred. Figure 5.3 depicts a student from the Papulankutja (Blackstone) Early Childhood class performing the hundred board mathematical Montessori material. The student has placed the number tiles one to one hundred on the board and is now writing the numbers on a 10x10 grid.

Students within the classroom observed often faced a variety of health issues. The student who wanted to come to school regardless of her health illustrates another example of independence within the Montessori classroom. Students often came to

school with medical issues. These issues may have caused the child to be restless. In a mainstream classroom setting students are typically in a whole class or small group setting for the majority of the classroom routine. The Montessori classroom observed in this study, allowed students to independently move around the room, select works that were of interest to them and complete the work in a comfortable position that the student preferred. The teacher-researcher described a five-year old student with a large abscess in the classroom environment:

The student had been coming to school periodically over the last few days as she has a very large abscess in the groin region. The abscess had popped several times and outside of school. The student has generally been moving around the community naked or with underwear on due to the pain of clothing rubbing on the dressing. The abscess has limited her ability to walk. With her mother, the student regularly attended the community clinic to ensure the abscess was healing. Her family especially her mother, had paid special attention to ensure the student was resting. The student came to school today however, she is tired and struggling to walk around the room. The student verbally indicated that she really wanted to attend school. The teacher, mother and community nurse agreed that the student could attend school for an hour each day until her abscess healed. The student attended class today. She walked in and selected creative collage work. She picked up the tray and places it at a table. She collected the blank paper from the writing shelf and began her work. She concentrated on this work for eleven minutes. When she finished, she placed her work on the drying rack, washed her glue brush at the sink, placed the materials on the tray and places the work back to the shelf for the next student. The student selected a practical life pouring work.

The five-year old student displayed high levels of independence by attending school regardless of her health. Within the classroom the student displayed the same level of independence by selecting the work that she wanted. The five-year old student conducted herself with independence and purpose.

5.3.3.2 *Critical friend observations*

During a general observation framework, the critical friend noted, “Students are used to pleasing themselves, therefore a Montessori program reduces the conflict between home and school” allowing the students to “suit the individual.” During an individual observation framework, the critical friend described a six-year old student completing a one-on-one writing presentation with the teacher-researcher as follows:

The teacher and student have begun work on a mat on the floor. They were completing a daily writing activity. The student wanted to work independently after her discussion with the teacher. The student moved to

a desk to work independently. She was distracted by another student but returned to her work. The student was again distracted; she drummed her pencil on the desk for a moment but returned to her work.

Although the behaviour of peers provides numerous opportunities for distraction, the six-year old student displayed high levels of independence whilst completing the work with the teacher-researcher, working independently on the task. Within the Montessori classroom observed in this study, the teacher-researcher was able to work one-on-one with students to provide specific support to each of the students.

5.3.3.3 *Informant observations*

The informant was a native Ngaanyatjarra speaker and was able to interpret student dialogue in the Montessori classroom. From the bilingual understanding, the informant described the theme of independence in relation to students' school and home life. The informant stated in an interview:

I started to see kids focusing on what they wanted to do. And I was thinking "wow, this is good, this is a good way of learning". Cause if we have kids with problems like hearing, "they can't sit down and then they get up quick". But they are sitting down... (With the teacher) and taking time... one on one... they not getting up and coming and going. (Then other kids start) Thinking "Hey! She's not walking out, she's just doing it" and then they thinking "Hey! I'll just sit down do something like that" *Yuwa* (yes), and it works for the *tjitji* (child), cause all the little kids, they want to do something by themselves, *yuwa* (yes). So it's a really good way of teaching, with Montessori.

The informant described the Montessori environment, "Kids focusing on what they wanted to do" because he or she is interested in the work." Within the Montessori classroom observed in the study, students focus independently on work. Students were able to select a material of their choice and the location of where they would like to work. The student was able to independently decide how many times they would like to repeat the material.

5.3.4 Summary

The data revealed three main themes in relation to students' response to Montessori pedagogy. The data revealed that students responded positively to Montessori pedagogy as they were able to select works of personal interest and were able to select the location in which to complete the work. Students were therefore, more

likely to engage in the experiences with enthusiasm and interest as they had choice and control over their learning.

5.4 RESEARCH QUESTION TWO

In what ways do Aboriginal students respond to Montessori pedagogy within a remote Early Childhood program?

Three key themes evident in the data collected by the teacher-researcher, critical friend and informant were: Montessori pedagogy suiting the transient nature of remote Aboriginal students; persistence; and peer modelling. The following three sections describe the observations of these student behaviours to Montessori pedagogy specific to research question two. Figure 5.6 presents the three themes within research question two.

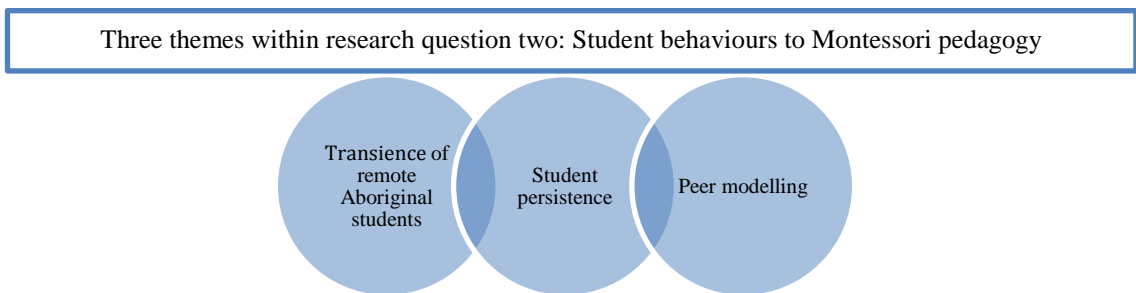


Figure 5.6: Three themes within research question two: Student behaviours to Montessori pedagogy

5.4.1 Transience of remote Aboriginal students

As presented in Figure 5.6 the first theme relates to the transience of remote Aboriginal students. Remote Aboriginal families frequently travel between communities due to cultural traditions such as funerals or ‘sorry business’, ‘men’s business’ or ‘women’s business’. Sporting events such as football carnivals and softball also cause families to be itinerant. Transience affected the classroom observed in this study as the teacher-researcher often had an increased ‘visitor’ attendance. Students may disappear for days, weeks or months at a time, depending on the event. The Montessori pedagogical routine remained consistent for the Early Childhood classroom in this study. Therefore, students were able to actively engage in the classroom routine without any ‘transition’ period. Students observed in this study, commonly arrived late to class or may have arrived from another community throughout the school day. As there is

limited whole class instruction in a Montessori pedagogy classroom, students were able to arrive periodically during the day and immediately engage in the classroom with minimal disruption to the other students. Minimal whole class instruction in the classroom observed in this study, allowed students who were late or absent for periods of time to return to the classroom setting with ease and minimal disruption to the learning program.

5.4.1.1 *Teacher-researcher observations*

During the data collection period, the teacher-researcher described a normal morning three-hour work period as followed:

The classroom was quiet and students were working independently. When the students verbally communicated, they used their home language (Ngaanyatjarra). Within the first sixty-minutes of the session, three students arrived separately. Each student entered the classroom, selected a work quietly and began independently. Minimal disruption was made to others.

Students of the classroom observed in this study regularly arrive to class after the start of the school timetable. When students arrive, they have often not eaten breakfast.

During the data collection period, the teacher-researcher wrote:

A seven-year old student arrived late and he was hungry. He had no breakfast before arriving into the classroom. Independently, he collected all his own breakfast from the Practical Life shelf and fridge (Weetabix, milk, bowl, spoon and placemat). He set up his work and ate. He completed the full learning cycle by washing and drying his bowl, placing the milk in the fridge.

Similarly, the teacher-researcher described another student arriving late to class. The teacher-researcher commented, “The six-year old student quietly collects a mat, rolls it out on the floor and collects a book from the language shelf. He concentrates on the work for four minutes and does not distract other students.”

Remote Aboriginal students regularly travel to other communities or regional centres for long periods of time to visit family or attend cultural events such as funerals. Once the student arrives at the destination, transport can also be a major influence on students not returning to their community as cars may be broken down or there is limited access to spare parts or money for fuel. The teacher-researcher observed an eight-year old student who has been absent from the Papulankutja (Blackstone) Early

Childhood class for over seven months. The student has now returned. “When the student returned to the Montessori classroom, she remembered the routine and classroom structure from term two.”

Another student of five-years of age, returned from Alice Springs having been absent for ten months. The student was absent as she was visiting his father’s family near the East MacDonnell Ranges (Northwest of Alice Springs). The teacher-researcher stated, “The student moved around the classroom with ease, as he remembers the process of the Montessori classroom. The student completed the full learning cycle with minimal teacher directed instruction.” The teacher-researcher recorded the following observation when a six-year old student moved from Kiwirrkurra Early Childhood class. The Kiwirrkurra classroom used Montessori pedagogical teaching and learning practices. When the student arrived in Papulankutja (Blackstone) Remote Community the teacher-researcher commented:

The student knows the routine. He is easily able to adapt to the classroom even though he does not know any of his peers. His mother is from Papulankutja (Blackstone) and the families have been living in Kiwirrkurra with the father’s family. The mother and father have separated due to domestic violence issues and the father is now in Alice Springs Prison. The student will now be living permanently in Papulankutja. His learning was minimally disrupted as the classroom and the classroom materials are the same as the previous learning environment. The student’s previous teacher in Kiwirrkurra transferred his Personalised Learning Plan (PLP) and the current developmental levels for Practical Life, Sensorial Education, Language and Mathematics to ensure a smooth transition process occurs for the student.

The Kiwirrkurra Early Childhood student was able to easily adapt to the new environment in Papulankutja Early Childhood environment, as he was familiar with the common routines of a Montessori program. Familiarity of routine, structure and learning materials within the Montessori classroom observed in this study, provided students with continuity in the learning environment. Continuity allowed the students to enter the classroom with clear expectations of their role within the environment.

5.3.4.2 *Critical friend observations*

During the data collection period, the critical friend noted in a general observation framework, “The role of Montessori materials helps students as there is limited time wasting which is important to itinerant students.” Each Montessori material

has a particular direct aim and the students were able to enter the learning environment and engage with work. The critical friend commented, “There are [*sic*] a wide variety of works suiting different age and developmental appropriateness which helps students who are itinerant.” Within the Montessori classroom observed in this study, visiting students were able to engage in work even though the teacher-researcher was not familiar with the student. The materials were readily available and consistent with the student's prior experiences in the classroom.

5.3.4.3 Informant observations

During the data collection period, a five-year old student and six-year old student from Mantamaru Campus visited Papulankutja for two weeks during ‘sorry business’. During ‘sorry business’, Mantamaru students were able to learn the Montessori routine. The teacher-researcher noted the following comment made by a Papulankutja student to the Mantamaru visitors, “This isn’t Mantamaru, you gotta do it Blackstone (Papulankutja) way!” The student proceeded to demonstrate to the visiting students how to unroll a mat, lay out their work on the mat and complete the full learning cycle. When the informant was asked about the previous comment, she responded:

Yuwa (yes)! They (Papulankutja kids) proud of it! They really proud that it’s in Blackstone. They know what they have do but when they go to another school they don’t feel comfortable and they think back that Blackstone way is better, doing that Montessori. And it’s *ninti* (smart).

The informant identified that the Papulankutja (Blackstone) Early Childhood students felt a sense of pride in the Montessori pedagogy program in their classroom. The Papulankutja (Blackstone) Early Childhood students assisted the visiting students through peer teaching and peer mentoring.

5.4.2 Persistence

The second theme evident in the theme related to student behaviour was persistence. Persistence is defined as the “continuing in an opinion or course of action in spite of difficulty or opposition” (Oxford University Press, 2014). Persistence presented as a common behaviour in the Montessori pedagogical classroom observed in this study. Persistence was built into the program routine as students must wait their turn to use the material. This was evident when a student who had completed the full work cycle,

replaced the material ready for his peers. Within the Montessori classroom observed in this study, only one ‘copy’ of each material was placed in the environment. Therefore, students exercised behaviours of persistence by waiting for a turn.

5.4.2.1 *Teacher-researcher observations*

To complete a full work cycle, the students ‘reset’ the material for his or her peers. The behaviour of selflessness ensured the Montessori classroom maintained a student-centered manner. The teacher-researcher commented, “Students cleaned up after themselves, the classroom remained in a neat and orderly manner with limited teacher direction.” The teacher-researcher described a five-year old student who had completed the full work cycle of colour box two. When she had completed the work she “Began to pack away each colour tablet, placed the lid on the box and placed the work back on the shelf for the next student.” The direct aim of the colour box two material is to teach visual discrimination by colour. Figure 5.7 depicts a Papulankutja (Blackstone) Early Childhood student completing colour box 2.



Figure 5.7. Student of the Papulankutja (Blackstone) Early Childhood cohort completing colour box one (from researcher’s own collection).

Within the Montessori classroom observed in this study, students frequently did not complete the full work cycle in one session due to the student tiring, or a scheduled break or end of a three-hour work period. Instead of packing the material

away unfinished, the student placed a laminated copy of his/her name on the work. The teacher-researcher described an example of this process:

A six-year old student began metal inset work. The work is an open ended, creative task. It was a new work, only placed on the shelf today and created a lot of excitement amongst the students. The student experimented with the new work and concentrated for over fourteen minutes. However, she was interrupted and called over by another student in the room. The other student teased her and she began to cry, staying under the table for seven minutes. During the whole process a five-year old student who was sitting at a desk completing the spindle box work, has been observing to see if she had finished with the metal inset work. The five-year old student stood four times over the twenty-one minute period to see if the six-year old student had finished with the new work. Even when the student was not at the desk however, was crying under the table, the five-year old student did not touch or sit down at the work. She only looked around the room to see where she was. After a few minutes, the six-year old student came out from the desk, returned to pack away the metal inset work and placed the work on the shelf. It is only now the five-year old student placed her laminated name on the spindle box work and began the work of the metal insets.

In this study, when a new work was added to the Montessori classroom, students demonstrated behaviours of persistence potentially due to the core routines of the Montessori pedagogical teaching and learning practices. Figure 5.8 illustrates student of the Early Childhood classroom observed in this study complying the spindle box material. The spindle box Montessori material aims to associate symbol and quantity to numbers zero to ten including the value of zero.



Figure 5.8. Student of the Papulankutja (Blackstone) Early Childhood cohort completing the spindle box material (from researcher's own collection).

5.4.2.2 *Critical friend observations*

Whilst completing an observational framework, the critical friend was asked to indicate if the student being observed demonstrated persistence. The critical friend indicated students were demonstrating persistence by “returning to unfinished tasks after a break” and “demonstrating pro social behaviour.” The critical friend further commented, “the Montessori classroom promotes caring and cooperation.” Students in the Montessori classroom observed in this study regularly demonstrated behaviours of persistence.

5.4.2.3 *Informant observations*

In this study, persistence was an attribute identified in students observed in this study. During a one-on-one interview the informant stated, “They (the students) have to have patience for like ten minutes.” Students must be willing to “sit down, watch and wait for their turn.” The student's interest in the material supported the development of personal attributes of persistence, patience and turn taking.

5.4.3 Peer modelling

The third theme evident in the student behaviour was peer modelling. The Oxford University Press Dictionary (2014) defined peer by “a person of the same age, status, or ability as another specified person.” Within the Montessori classroom, peer modelling formed the core to the multi-age grouping structure. Peer modelling enabled younger students to aspire to the achievement of the older students in the classroom. Older students were able to present themselves as role models and engage in peer modelling with the younger students. Additionally, peer mentoring through multi-age grouping allowed the older students to consolidate and refine their learning.

5.4.3.1 *Teacher-researcher observations*

Within the Montessori classroom observed in this study, the teacher-researcher worked one-on-one to present developmentally appropriate materials to students. The teacher-researcher described an occasion when the teacher was presenting the addition strip board to an eight-year old student. The teacher-researcher stated:

The teacher and the student walked over to the mathematics shelf. The teacher removed the addition strip board materials from the shelf and walked over to a desk of the student’s choice. The teacher began to present the material to the student. The student began completing five addition equations. During this time, a six-year old student walked over and began observing the student’s work. The six-year old student was invited by the teacher to collect a chair and observe at the desk. The eight-year old student concentrated on the work for seventeen minutes.

The next day the teacher-researcher further described an eight-year old student’s behaviours, “The student returned to continue the addition strip board. The six-year old student also returned to continue observing for nearly three minutes.” The teacher-researcher stated, “The eight-year old student concentrated for a further twelve minutes before the process of packing away and placing the materials on the shelf for another student to use.” Peer modelling allowed the younger student to observe the material he would complete in the future. Peer modelling in the Montessori classroom generated engagement with the learning material for the younger student. Figure 5.9 depicts the situation of a Papulankutja (Blackstone) Early Childhood student completing the addition strip board with an AIEO and a younger student observing the presentation.



Figure 5.9. Papulankutja (Blackstone) Early Childhood student completing the addition strip board with an AIEO and a younger student observing the presentation (from researcher's own collection).

5.4.3.2 *Critical friend observations*

During the data collection period, the critical friend commented on peer modelling, “Older students model positive classroom behaviours and younger students copy these behaviours.” Younger students, new or visiting students were able to observe the classroom behaviours and routines demonstrated by the older students. Peer modelling permitted the teacher-researcher to work one-on-one with an individual student on his or her PLP.

5.4.3.3 *Informant observations*

The informant commented on peer modelling in the Montessori classroom observed in this study. The informant stated students in the Montessori classroom observed discussed peer modelling. The informant stated students discussed in their home language (Ngaanyatjarra), “I’ll just sit down do something like that” (referring to another student sitting down on a mat, completing a work). An individual student was

able to observe his or her peer in the classroom setting to engage in the learning environment.

5.4.4 Summary

As presented in Figure 5.4, the data revealed three main themes in the students' behaviours to Montessori pedagogy. These themes were transiency in remote Aboriginal students, persistence and peer modelling. Analysis of the data obtained from the teacher-researcher, critical friend and key informant supported the view that Montessori pedagogical teaching and learning practices encouraged positive student behaviour. This was evident as younger, new and visiting students were frequently observed by their peers. Students demonstrated pro-social behaviours such as turn taking, patience in waiting for a turn to use the material and persistence in completing the task. These attributes allowed students to engage in a positive environment, achieving sound learning outcomes.

5.5 RESEARCH QUESTION THREE

In what ways has Montessori pedagogy impacted on language learning and development within a remote Aboriginal Early Childhood program?

Through comprehensive data analysis that coded and reviewed all evidence, three themes congruent with language learning and development: one-on-one learning; AIEO participation; and Montessori curriculum development. Figure 5.10 outlines the three themes.

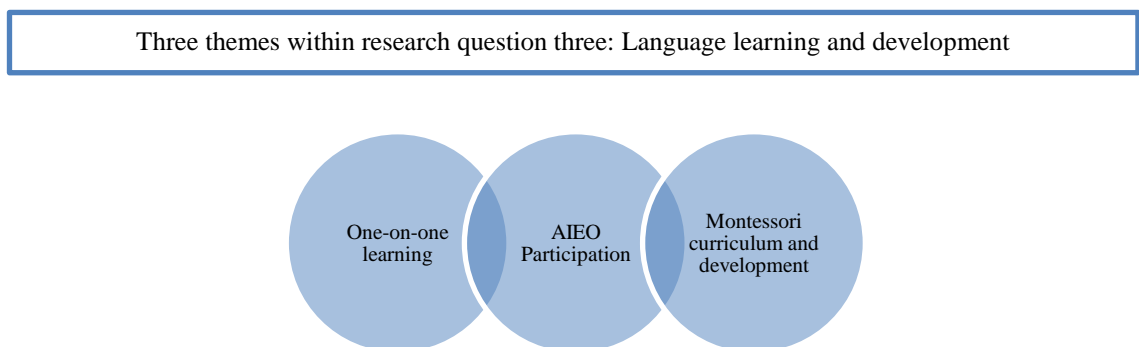


Figure 5.10. Three themes within research question three: Language learning and development

5.5.1 One-on-one learning

Tuition that is termed “one-on-one” learning allows the teacher to work on an individual level with a student to better cater for his or her needs. The teacher-researcher was able to work closely with the students who had English as a second or third language because of the classroom structure. She was also able to support the learning of Standard Australian English and the Ngaanyatjarra language development. One-on-one learning involves both the teacher and the student working together towards a common individual goal without distraction from peers.

5.5.1.1 *Teacher-researcher observations*

The Montessori pedagogical classroom observed in this research supported one-on-one learning. The teacher-researcher recorded:

The teacher worked with four students a last twenty-nine minute period using sandpaper letters. Once the three-period lesson was completed, the student moved off to their desired workspace (table or mat) and practice writing one of the sounds.

The teacher-researcher detailed an observation, “The five-year old student is completing a three-period lesson with sandpaper letters t, p and m. The teacher worked with the student one-on-one for six minutes. The student was able to name, recognise, associate and recall the three sounds.” The daily routine of the Montessori classroom observed in this study permitted the teacher-researcher to work one-on-one with students to develop SAE language skills whilst the other class members were actively engaged in work.

5.5.1.2 *Critical friend observations*

The critical friend recorded that within a mainstream teaching setting, “one-on-one learning is rare.” Within the Montessori classroom observed in this research the critical friend stated the classroom routines “made allowances for one-on-one student teacher learning.” Within a remote Aboriginal classroom, student conflict regularly occurs. In this study, the teacher-researcher was able to remove herself from the classroom with minimal disruption to other students as each student worked independently. The critical friend stated:

A five-year old student was having a disagreement with another student. She tried to leave the classroom. The teacher quickly spoke one-on-one with her quietly. The teacher redirected her to a work where she concentrated for seven minutes.

The teacher-researcher was able to promptly intervene with the student who displayed antisocial behaviour as other students were independently completing their own works and were not reliant on the teacher-researcher to complete their task.

5.5.1.3 Informant observations

From the informant's classroom observations she commented, "*Tjitji* (child) they are learning one-on-one." The informant stated in an interview:

I can see the difference that when there's a big group to when there is one-on-one learning. There is interference in the big group and then there's nothing when it's one-on-one. Those *tjitji* (child), they learning. Yuwa (*yes*), *walykumunu* (*good*).

During whole class learning situations, the teacher-researcher found it difficult to provide individually appropriate learning experiences in the development of language. Working one-on-one with students allowed the teacher-researcher to cater for the students' level of language development in SAE and the home language of Ngaanyatjarra.

5.5.2 Aboriginal and Islander Education Officer (AIEO) participation

As outlined in Figure 5.8, the theme of language development relates to the importance of the AIEO participation. AIEO's "provide support and assistance to Aboriginal and Torres Strait Islander students, their parents/guardians, teachers, the school and the community" (Department of Education Western Australia, 2012). AIEO participation enabled the remote Aboriginal students to engage with Montessori materials in their home language (Ngaanyatjarra). Many early childhood students had limited understanding of SAE. Within the Montessori classroom observed in this study, AIEOs presented Montessori materials at the students' level of language development. Therefore, students were less likely to be left behind academically due to their limited SAE, as the lessons addressed and targeted their individual learning needs.

5.5.2.1 Teacher-researcher observation

The teacher-researcher described the process of teaching AIEO's the Montessori materials, "In DOTT [Duties Other Than Teaching] sessions, the teacher worked with the AIEO's to demonstrated how to complete a three-period lesson with the sandpaper letters. The teacher-researcher presented the material to the AIEO's. The

AIEO's practiced and modelled with each other and the teacher-researcher for eight minutes. The next day the teacher-researcher commented:

The AIEO worked one-on-one with a six-year old student on a mat to present the letters f, j and r in the three-period lesson format. The AIEO checked the student sandpaper letters record sheet to identify which sounds the student was currently working on. The AIEO used the child's home language (Ngaanyatjarra).

During the data collection period, a five-year old student from Warburton Remote Community arrived in Papulankutja (Blackstone) Early Childhood classroom. The student had limited SAE. The AIEO worked one-on-one with the student to complete the sandpaper letter presentation in the child's home language (Ngaanyatjarra). The AIEO displayed a sense of pride and commitment to the three-period lesson using the sandpaper letters. AIEO's in the classroom observed in this research provided the crucial linguistic link between the student's home language (Ngaanyatjarra) and school life of SAE.

5.5.2.2 *Critical friend observations*

During a general observation framework the critical friend noted, "AIEO's are able to bridge the language gap" between SAE and the students home language (Ngaanyatjarra). The critical friend commented, "AIEO's are able to work one-on-one with students in the room to help with teasing and language difficulties." The role of the AIEO in a remote Aboriginal setting can often be to defuse negative behaviour within the learning environment, as teachers do not speak Ngaanyatjarra. The Montessori classroom observed in this study aimed to provide AIEO's with professional training to develop their skill set in using Montessori materials thus enabling positive one-on-one learning experiences in the child's home language (Ngaanyatjarra) and SAE.

5.5.2.3 *Informant observations*

The informant commented numerous times regarding the connection between AIEO's and the development of SAE language through translating to students in Ngaanyatjarra. In the Montessori program observed in this study, the teacher-researcher's lessons were presented in the child's home language or the language of the school. In Papulankutja (Blackstone) Remote Community the students' native language

is Ngaanyatjarra. AIEOs were able to present the materials in Ngaanyatjarra. The informant stated:

The teacher and the AIEO need to work together and when the *tjitji* (child) just comes in new to school, first time, the AIEO is important for the teachers and for the *tjitji*'s (child's) learning.

Within this remote Aboriginal context, the collaboration of the teacher-researcher and the AIEO was key to a successful learning environment. The class observed in this study was comprised of seventeen Aboriginal participants and one non-Aboriginal participant. The teacher-researcher and AIEOs collaborated to present Montessori materials in SAE and Ngaanyatjarra to cater for each student's current level of language development.

5.5.3 Montessori Curriculum and development

The third theme evident in addressing the research question related to language learning and development, through Montessori pedagogy is focused on the curriculum development. The theme of curriculum development was repeatedly commented on by the teacher-researcher. The Montessori National Curriculum (Montessori Australia Foundation, 2011) is an approved alternative curriculum in Australia. The teacher-researcher of this study used the Montessori National Curriculum (Montessori Australia Foundation, 2011) to inform, plan and assess the students of the Papulankutja (Blackstone) students. Language within the Montessori classroom observed in this study occurred through direct and indirect preparation. Indirect preparation occurred during practical life and sensorial education exercises by preparing the hand and development of concentration. The indirect exercises developed the students' pincer grip, lightness of touch, firmness of touch and refinement of the fine motor skills. Examples of these exercises used are spooning, cylinder blocks and map pieces to develop the student's pincer grip for writing. Direct preparation provided the child with the knowledge of the meaning of each symbol and the mechanism of writing. Examples of these exercises included are the sandpaper letters, moveable alphabet and metal insets to teach the specific names of each letter and begin writing short words or phrases.

5.5.3.1 *Teacher-researcher observations*

Universally, Montessori classroom routines and materials are consistent. The teacher-researcher of this study, researched the routines and materials used to teach

students the acquisition of language within Montessori pedagogy. She was able to indirectly and directly teach the acquisition of language to the students. Indirectly, the teacher-researcher guided students to exercises that prepared the child's hand. The teacher-researcher commented, "The four-year old students had limited fine motor control and she encouraged the student to continue working with the Sensorial Education material of the cylinder blocks to continue his development of the hand." Once the child has worked comprehensively with the indirect materials, he or she is able to begin to work one-on-one with the teacher-researcher or an AIEO with the direct materials, the sandpaper letters, metal insets and the moveable alphabet.

5.5.3.2 *Critical friend observations*

During the data collection period, the critical friend stated mainstream language development teaching materials "are constantly changing. The teacher is not given enough time to consolidate new skills, teaching methods and philosophies." The critical friend followed by stating Montessori language materials "have had over one hundred years of refinement" and "have clear purposes." The Montessori National Curriculum (Montessori Australia Foundation, 2011) presents clear teaching and learning practices used within a Montessori classroom. The critical friend noted, "The curriculum caters for a wide variety of levels of development." The classroom observed in this research, used Montessori pedagogy and materials to support language development in both SAE and Ngaanyatjarra.

5.5.3.3 *Informant observations*

Ngaanyatjarra is the informant's first language. The informant recognised the challenges remote Aboriginal students faced when learning SAE. The informant commented, "There are two worlds we got to learn, cultural (Ngaanyatjarra) way and Western way. When the teacher comes (to school) in their mind, English/Western way and when the AIEO and students comes in, they in the Ngaanyatjarra *wangka* (language)." When questioned regarding Montessori materials and the teaching and learning environment the informant, stated, "*Yuwa* (yes), same education from all over the world but different *wangka* (language)." Remote Aboriginal students' SAE language development should not hinder the development of other learning areas. Within the Montessori classroom observed in this study, AIEOs worked one-on-one with students in their home language (Ngaanyatjarra).

5.5.4 Summary

Analysis of the data revealed three main themes addressing the research question concerning language learning and development through Montessori pedagogy. These themes were: one-on-one learning, AIEO participation and Montessori curriculum development. Students were able to develop linguistically regardless of their current ability of Ngaanyatjarra or SAE due to the one-on-one teaching of Montessori curriculum and materials through the teacher and AIEOs collaborating together. It is concluded that the pedagogy of Montessori teaching and learning supported the language learning and development of the Aboriginal students within the research study.

5.6 RESEARCH QUESTION FOUR

In what ways has Montessori pedagogy engaged community members to interact within a remote Aboriginal Early Childhood program?

Two key findings emerged from the data analysis related to this research question relative to community interactions: visits from parents and caregivers and classroom environment and structure. Figure 5.11 presents the two themes within research question four.

Two findings within research question four: Community involvement

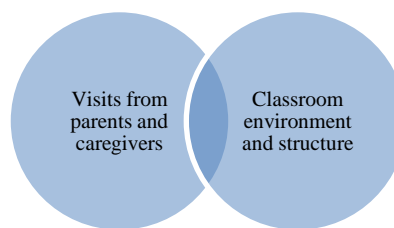


Figure 5.11. Two findings within research question four: Community involvement

5.6.1 Visits from parents and caregivers

The visits from parents and caregivers were frequently commented on by the teacher-researcher through the video recording observations. The critical friend used the general and individual observational frameworks to document this evidence. The informant reported on these findings through one-on-one interviews.

5.6.1.1 *Teacher-researcher observations*

During the data collection period the teacher-researcher stated, “When parents and caregivers came into the classroom students enjoyed sharing their skills. The parents and caregivers were able to sit with their child and complete work predominantly in Ngaanyatjarra. There was no physical fighting and minimal teasing.” During the data collection period a grandmother visited the classroom and she said, “*Yuwa* (yes), *walykumunu* (good) classroom.” Parents and caregivers visited the classroom to work one-on-one with their child. Another mother visited the classroom regularly and the teacher-researcher described, “The mother and two-year old daughter visited her six-year old son. The mother, two-year old daughter and six-year old son sat on the floor and worked with the colour box one. The mother and son worked with the material in the child’s home language (Ngaanyatjarra) however, the colours are said in English.” Montessori pedagogy enabled parents to work with their school aged and young children. Once the children learn the classroom routine of collecting a mat, a work task and packing it away, they are able to work independently within the learning environment. Within the classroom observed in this study, the visitors that arrived were able to positively interact with their child during their learning experience, assisted by the repetition of routine and class structure.

5.6.1.2 *Critical friend observations*

During the data collection period the critical friend recorded times that parents and caregivers visited the classroom. The critical friend noted, “Parents and caregivers are able to be in the room, and assist with students’ learning the Montessori routine in home language (Ngaanyatjarra).” When parents and caregivers visited the Montessori classroom, the critical friend stated “they feel comfortable and validated. The Montessori classroom in this research caters for independent work and the use of Ngaanyatjarra language between visitors and students.

5.6.1.3 *Informant observations*

The informant discussed visits from parents and caregivers several times during the one-on-one interviews with the teacher-researcher. The informant stated, “*Yuwa* (yes), I see when the mummy comes in to sit down in the class. She (the mummy) is watching, looking after the kids and helping them in Ngaanyatjarra. Sitting down one on one with her child.” Community involvement through visits from parents

and caregivers formed strong links between school and home life for the student. Montessori pedagogical practices created a positive one-on-one teaching and learning environment for parents and caregivers to engage in their child's learning. Parents and visitors in the classroom observed were encouraged to speak Ngaanyatjarra with their child in learning experiences to build a strong connection between the students home and school life.

5.6.2 Classroom environment and structure

The classroom environment and structure was viewed as key to engaging the community and evidence of these interactions are documented below.

5.6.2.1 *Teacher-researcher observations*

The teacher-researcher recorded on numerous occasions the role and importance of the classroom environment and structure. For example: "The classroom needed to be clean and organised before the students came into the learning environment. The materials were attractive and complete for the students, parents and caregivers to work with." The consistent routine within the classroom observed in this study, allowed parents and caregivers to be involved in their child's learning as there was stability and predictability in the Montessori classroom structure.

5.6.2.2 *Critical friend observations*

During the data collection period, the critical friend frequently commented on the calmness, order and beauty of the classroom observed in this study. She commented, "The beauty and order is a contrast to the community environment" and "the quiet reduces emotional outbursts." The Montessori pedagogical classroom of this study provided support to positive teaching and learning experiences for parents and caregivers. The critical friend recorded, "The students are learning how to keep their space tidy and clean. Parents can see what students are doing at school and can do the same at home also." Parents and caregivers of the participants of this study regularly visited the classroom and engaged in positive teaching and learning experiences.

5.6.2.3 *Informant observations*

As a local Ngaanyatjarra community member, the informant commented on the importance for students to learn how to care for their environment. The informant

stated, “When *tjitji* (child) is doing cleaning, sweeping, they don’t do that at home but coming to school and learning how to do all those things, it an opportunity for them to go home and do it at home. It’s a good thing!” The students demonstrated to parents and caregivers their role in caring for their environment in the classroom. Within the Montessori classroom observed in this study, community involvement encouraged parents and caregivers to hold similar teaching and learning experiences in the students’ home life.

5.6.3 Summary

Analysis of the data revealed two main themes in addressing research question four related to community involvement within the Montessori classroom: visits from parents and caregivers; and classroom environment and structure. Community involvement through Montessori pedagogy encouraged a strong link and transfer of skills between the students’ school and home life. Students’ roles and expectations within the classroom were clearly outlined for parents and caregivers. It was possible that these skills were able to be transferred to the home environment. The Montessori classroom routine and environment remained consistent. Community involvement was encouraged as the parents and caregivers were able to engage in their child’s learning in SAE and Ngaanyatjarra, knowing what was expected and how the classroom worked.

5.7 CONCLUSION

In this chapter, the findings of the research were presented under the four research questions: student response to Montessori pedagogy; student behaviour in response to Montessori pedagogy; language learning and development in the Montessori pedagogy classroom; and engagement of the community by parents and caregivers in the Montessori classroom observed in this study. The findings of each of these research questions were outlined and revealed a number of different themes. In summary, the research study has shown that the Montessori pedagogy has impacted on the Aboriginal students in the Early Childhood classroom. The Montessori pedagogy encouraged positive student behaviour, supported language learning and development, as this approach allowed students to develop their capabilities in both Ngaanyatjarra and SAE. Finally, community involvement was promoted as parents and caregivers were able to engage positively in their child’s learning, as partners in the education process.

CHAPTER SIX

DISCUSSION

6.1 INTRODUCTION

The purpose of the research was to observe and describe the effect of Montessori pedagogy in a remote Aboriginal Early Childhood program. The general research question for the study was: What is the effect of Montessori pedagogy on Aboriginal students in a remote Early Childhood program? The four specific research questions addressed were:

1. In what ways do Aboriginal students respond to Montessori pedagogy within a remote Early Childhood program?
2. In what ways has Montessori pedagogy impacted on student behaviour within a remote Aboriginal Early Childhood program?
3. In what ways has Montessori pedagogy impacted on language learning and development within a remote Aboriginal Early Childhood program?
4. In what ways has Montessori pedagogy engaged community members to interact within a remote Aboriginal Early Childhood program?

The following chapter considers each of these four specific research questions in light of the key themes that have emerged from the study and discusses the significance of each within the context of current educational literature.

6.2 STUDENT RESPONSE TO MONTESSORI PEDAGOGY

In what ways do Aboriginal students respond to Montessori pedagogy within a remote Early Childhood program?

The findings of the research suggest that remote Aboriginal Early Childhood students respond to Montessori pedagogy in three ways: concentration and engagement; student autonomy; and student independence. Current literature in Aboriginal and Early Childhood education supports these responses.

6.2.1. Concentration and engagement

Recent literature concerning Aboriginal education supports teaching and learning practices to engage Aboriginal students in classroom environments. Teachers and AIEOs need to collaborate to build an environment to assist in the process of

engagement. Specifically, Price (2012) stated, “A culturally competent teacher, along with increased members of Aboriginal and Torres Strait Islander peoples employed in schools, will foster engagement with, and participation by, local Indigenous communities, and will build positive learning relationships with Indigenous children” (p. 168). Attendance and engagement are closely linked within remote Aboriginal educational settings (MCEECDYA, 2010). To build student engagement, educators should work in partnership with parents, caregivers and the wider community. Literature suggested that schools and institutions should seek to incorporate traditional Aboriginal child-rearing techniques into classroom teaching practices (Harrison, 2005; Yunkaporta, 2009; Robinson & Nichol, 1998). Montessori pedagogy fosters learning and engagement by strategies that support the autonomy of the child.

The findings of this research indicated that within a Montessori classroom, distractions are minimised. Therefore, students are able to concentrate and engage in learning experiences. The remote Aboriginal Early Childhood students of this study, demonstrated high levels of concentration as the learning experiences planned and undertaken were of personal interest. The Montessori classroom also provided a clear classroom structure and routine for students to develop their skills of concentration. The current lead policy in Aboriginal education in Western Australia indicated that it is the role of education facilities to build strong community and school relationships to support genuine engagement and interaction (Department of Education Western Australia, 2015). As noted in the study, the positive relationship and engagement of the community encouraged the students to attend and be actively involved in the classroom.

Montessori pedagogy provided the opportunity for the teacher and AIEO's to work one-on-one with students. The students' self-selected the work that they would like to complete. As a result, the students' were engaged as the tasks undertaken were of personal interest (Montessori, 1966). Current literature supports the direct correlation between Aboriginal ways of learning and personal interest. Specifically, Harrison (2011) commented, “Aboriginal students are more motivated by activities where the meaning is self-evident” (p. 42). Literature pointed to the importance to making learning meaningful and exciting for students (Greeno, 1998; Leeper & Henderlong, 2000). In addition, teaching and learning practices should link to prior learning. Aboriginal students are engaged in learning tasks by relating the content to personal interest

(Harrison, 2011). Within the Montessori pedagogy, the role of the teacher is to link the students with Montessori materials to ensure learning is meaningful and engagement and concentration occurred (Lillard, 2005). There are numerous examples of the students' engagement with the Montessori materials that have been documented in this research.

6.2.2 Autonomy

Self-reliance and autonomy is a key characteristic of traditional child-rearing techniques (Harrison & Sellwood, 2016). Montessori pedagogy, the focus of this study, provided a learning environment that aligned with Aboriginal cultural child-rearing practices. The fourth principle of the EYLF (DEEWR, 2009) stresses the need for educators to support the “histories, cultures, languages, traditions, child-rearing practices and lifestyle choices of families” (p. 13). These traits are reflected in the literature which highlight the importance of developing students’ skills of independence and self-reliance (Gollan & Malin, 2012). Montessori pedagogy provides a learning environment that aligned with this principle. Therefore, there is a natural connection between the school and home environment. Recent literature suggests, “Aboriginal parents control their children more indirectly than non-Aboriginal parents” (Harrison, 2011, p. 156). The findings of this research indicated that Montessori pedagogy aligns strongly with Aboriginal child-rearing techniques. Independence is a central characteristic of Montessori methodology (Block, 2015; Cossentino, 2005; Harrison & Sellwood, 2016; Johnson, 2016). Therefore, the school teaching and learning environment was better suited to the Aboriginal child’s home environment (EYLF). The EYLF (DEEWR, 2009) strongly supports the aligning of child-rearing practices and the learning environment.

It is well recognised that people have a basic need for autonomy (Ryan & Deci, 2001). Autonomy is a core element of a Montessori classroom as children learn best when they have freely chosen the activity (Feez, 2010; Montessori Australia Foundation, 2011; Lillard, 2005). Within the Montessori pedagogy there is a strong emphasis on freedom of choice and movement (Block, 2015; Cossentino, 2005). A child in a Montessori environment is encouraged to explore and discover through the materials (Johnson, 2016).

Within the Montessori pedagogy classroom observed student autonomy was demonstrated. Literature suggests that the level of autonomy presented in a Montessori classroom can often be surprising to visitors (Lillard, 2005). The high levels of student autonomy within the Montessori classroom correlates to Aboriginal student's home life. Literature pointed to the importance of connecting teaching and learning practices to students' way of life as currently mainstream methods of education are not supporting learning as strongly as needed (Tjitayi, 2013).

6.2.3 Independence

Recent literature in Aboriginal education supports the concepts of independence and freedom for Aboriginal students. Specifically, Harrison (2011) noted, "Aboriginal students in their first years at school, such non-compliance is generally innocently carried out" (p. 157). Montessori teaching and learning practices support the Aboriginal students in a way that is very similar to their home environment. Research in Aboriginal education highlights the importance of traditional Aboriginal child-rearing techniques such as independence and autonomy (Beresford, Harrison, 2011; Harrison & Sellwood, 2016; Partington & Gower, 2012; Perso & Hayward, 2015; Price, 2012). Independence is at the core of Montessori pedagogy, as the classroom allows for as much freedom and independence as possible, dependent on the students developmental level, leaving them free to engage in the chosen activity (Montessori Australia Foundation, 2011). Students are able to independently select what activity that would like to complete, when they would like to repeat it, for the duration they desire and where they would like to complete the activity (Montessori Australia Foundation, 2011, Lillard, 2005; Feez, 2010). Within the Montessori pedagogy environment, the role of the teacher is to help students work independently with minimal adult support. Student independence then transpires to children from an early age, developing the individual's self-confidence (Montessori Australia Foundation, 2011).

Current Early Childhood policies and current Aboriginal education literature indicated students respond to teaching and learning when participation, engagement, connection, resilience, confidence and independence are carried out in the classroom setting (ACECQA, 2012; Barblett, 2010; Brewer, 2006; DEEWR, 2009; McLachlan, Fler & Edwards, 2010). Specifically in Aboriginal Education, Price (2012) commented, "Teachers could ensure that Aboriginal and Torres Strait Islander students

move towards a student-centric, teacher-guided learning environment in which the student takes primary responsibility for their own learning and educational outcomes” (p. 123). These attributes are at the heart of the Montessori pedagogy and were evident in much of the data collected in this research study.

6.2.4 Summary

The findings of the research highlighted that remote Aboriginal Early Childhood students responded to Montessori pedagogy in three ways: concentration and engagement; autonomy; and independence. There is evidence to suggest that there is a connection between traditional Aboriginal child-rearing techniques, Aboriginal ways of learning and Montessori pedagogy.

6.3 STUDENT BEHAVIOUR IN RESPONSE TO MONTESSORI PEDAGOGY

In what ways has Montessori pedagogy impacted on student behaviour within a remote Aboriginal Early Childhood program?

The findings of the research suggest that student behaviour in the classroom can be viewed in three ways: suits students with high transiency; student persistence; and peer modelling. Current literature in Aboriginal and Early Childhood education support these responses.

6.3.1 Suits students with high transience

The data from the teacher-researcher, critical friend and informant identified that remote Aboriginal students are often absent or late to class due to cultural events. Literature suggested that there are various reason why Aboriginal students are more likely to be transient (Harrison, 2011). These reasons include: attending funerals, visiting family, and being in closer proximity to a family member who may be in jail (Harrison, 2011). The findings from this research highlighted that Montessori pedagogy provided a classroom routine and structure that minimalised the effect of interruptions to the students' learning. The Montessori classroom allowed students to independently begin a task and without being directly affected by peers arriving sporadically. Beginning a lesson at the start of the day can often be difficult because the students arrive at random times of the day (Harrison, 2011). Montessori pedagogy classrooms facilitate a ‘no time wasted’ approach, making the most of every learning opportunity.

Ideally, students are always learning and can adjust to high levels of transiency through familiar classroom routines.

The findings of this research identified that Montessori pedagogy complemented remote Aboriginal Early Childhood students' cultural traditions (DEEWR, 2009). When students returned from visiting other communities for cultural reasons they were able to resume learning activities with minimal teacher guidance, demonstrating student autonomy and independence. According to DEEWR (2009), Early Childhood educators should “honour the histories, cultures, languages, traditions, child rearing practices and lifestyle choices by families” (p. 13). Student transiency is a result of cultural traditions and students attending these cultural traditions should be planned for by schools and integrated into teaching and learning practices (ACECQA, 2012; DEEWR, 2009).

In relation to the duration of the absence, it is recognised that students are expected to attend family business, such as funerals, and that these events may “last for a couple of weeks rather than a day” (Harrison, 2011, p. 51). Within the school context, students, parents, caregivers and the wider community may not feel comfortable and culturally safe in the school environment. Schools should value and encourage diversity enabling students, parents, caregivers and the wider community to feel supported in the school environment thus increasing student attendance and engagement regardless of student transiency (MCEECDYA, 2010). Commentary from the participants in this research study indicated that the parents of the students in the classroom appeared to be comfortable and supported through the Montessori pedagogy.

6.3.2 Student persistence

The findings from this research indicated that Montessori pedagogy encourages the behaviour of persistence with students through this approach. Persistence is demonstrated through turn taking and patience in waiting for a specific learning material in the classroom program (Cossentino, 2005; Regni, 2015). Each material had only one copy in the learning environment. Students had to exercise prosocial behaviours while waiting to complete the task of their choice when a peer was already engaged with the activity. The collective response of the people observing in this study, confirmed that

the remote Aboriginal Early Childhood students exercised high levels of persistence to work with the material of their choice.

The data confirmed that the students in the Montessori classroom felt a strong sense of pride for their learning environment. Specifically, the informant stated:

Yuwa (yes)! They (Papulankutja kids) proud of it! They really proud that it's in Blackstone. They know what they have do but when they go to another school they don't feel comfortable and they think back that Blackstone way is better, doing that Montessori. And it's *ninti* (smart).

Literature confirmed that within an Aboriginal education program, Aboriginal students need to feel pride in their learning environment (Sarra, 2008). The Papulankutja Early Childhood students felt proud of their classroom. Current lead policy documents in Early Childhood education support the concept of pride for the environment and that it comes from students' culture and language being respected. The response of students to teaching and learning practices increases when the learning environment embraces children's culture and language as they feel valued and safe (MCEEDYA, 2010; DEEWR, 2009; Department of Education Western Australia, 2012).

6.3.3 Peer modelling

The data from this study indicated that Montessori pedagogy supported peer modelling in the teaching and learning environment. Multi-aged grouping is a key characteristic of Montessori classrooms (Cossentino, 2005; Feez, 2010; Lillard, 2005). The social environment of the Montessori classroom uses multi-age grouping as a way of enhancing the meaningfulness of peer relationships. Multi-age grouping allows the student to use these skills in real-life situations (Montessori Australia Foundation, 2011; Lillard, 2005). Multi-age grouping reflects a family environment as students aspire to the older peers and other students learn to treat those younger with respect and care (Montessori Australia Foundation, 2011). Through multi-aged groupings, students engage in peer modelling. Peer modelling was evident in the student behaviour of the remote Aboriginal Early Childhood cohort. Through the practice of peer modelling, students are directly and indirectly observing one another. Aboriginal people learn by "observation, modelling, imitation" (Harrison, 2011, p. 44) and not just by listening and speaking (Harris, 1984; Hughes, More & Williams, 2004).

Peer modelling was viewed as central to the culture of the Montessori classroom and this aligns with current Aboriginal education literature (Harris, 1984; Harrison, 2011, Hughes, More & Williams, 2004). Early Childhood policy documents highlight that peer modelling allows children to “mirror, repeat and practice the actions of others, either immediately or later” (DEEWR, 2009, p. 36). Peer modelling generated positive student behaviour and provided a safe and secure learning environment (DEEWR, 2009). Imitation is a key contributor to a child’s neurological development as he or she repeats actions within the environment around him or her. This process is entitled, “Mirror Neuron Systems” [MNS] (Meltzoff, Williamson & Marshall, 2013). Montessori pedagogy supports current research in paediatric neuroscience of MNS and aligns with Aboriginal traditions of learning by observation and imitation (Harrison, 2011).

6.3.4 Summary

The data by the teacher-researcher, critical friend and informant emphasised that remote Aboriginal Early Childhood students responded to Montessori pedagogy in three ways: suits students with high transiency; student persistence; and peer modelling. Literature highlighted the importance of Montessori pedagogy providing a teaching and learning pedagogy that supported and respected Aboriginal culture, traditions and history.

6.4 LANGUAGE LEARNING AND DEVELOPMENT

In what ways has Montessori pedagogy impacted on language learning and development within a remote Aboriginal Early Childhood program?

The results of the research suggested that language learning and development in a remote Aboriginal early childhood using Montessori pedagogy was supported in three ways: One-on-one learning; AIEO participation; and Montessori curriculum and development. Current literature in Aboriginal and Early Childhood education support these responses.

6.4.1 One-on-one learning

The findings of this research indicated that one-on-one learning within the classroom assisted the teacher and the AIEO’s to cater for the children's specific learning needs. The teacher and AIEO’s role within the Montessori environment was to

connect the students to the learning materials appropriate to their level of development (Cossentino, 2005; Johnson, 2016). The connection process occurred in both SAE and Ngaanyatjarra with the teacher and the AIEOs collaborating and promoting the use of both languages. Montessori pedagogy uses individualised instruction and students receive directions one-on-one.

Current literature in Aboriginal education confirms that students do not respond well to large group instruction. Specifically, the remote Early Childhood students have limited knowledge of SAE and may only speak Ngaanyatjarra. The AIEOs are the main connection for the children as they can communicate in the home language. The EYLF (DEEWR, 2009) strongly supports and respects the position of students' home languages. The Montessori classroom observed in this study provided one-on-one learning for students in SAE and in Ngaanyatjarra.

6.4.2 AIEO Participation

Those involved in the data collection, who observed the classroom of this study, indicated that the AIEOs participation in the learning environment, especially in language development was essential. The AIEOs participation in the classroom supported and assisted the students' development of their home language (Ngaanyatjarra) and lead to the development of SAE. Literature and policy documents in Aboriginal and Early childhood education indicate that the student's home language must be respected, valued and reflected in the teaching and learning practices (DEEWR, 2009; Harris, 1984; Hughes, More & Williams, 2004; Perso & Hayward, 2015).

The literature on Aboriginal and Torres Strait Islander Education Officers (AIEO's) is significant to language development in remote Aboriginal Early Childhood students as AIEO's provide the link between home and school environment. AIEO's were able to communicate with the students in home language and act as a bridge for teachers in SAE. Specifically, DEEWR (2009) stated, "Educators promote learning when they value children's linguistic heritage and with family and community members encourage the use of and acquisition of home language and SAE" (p .40). The collaboration of the AIEO's and the teacher both delivering language lessons in SAE and Ngaanyatjarra provided a foundation for the two to work together. The teacher and

the AIEOs built positive professional relationships to work with the students (DEEWR, 2009; Harris, 1984; Hughes, More & Williams, 2004; Perso & Hayward, 2015).

6.4.3 Montessori curriculum and development

The findings of this research indicated that Montessori curriculum and practices supported the development of the student's language in both SAE and in Ngaanyatjarra. The development was supported directly and indirectly from the teacher and AIEO's (Regni, 2015). The Montessori curriculum was generally presented in one-on-one presentations to the children and allowed the teacher and AIEOs to cater to the students level of language. Through the use of one-on-one delivery, the child does not run the risk of being shamed by his or her peers and assists in the development of self-confidence. Current literature in Aboriginal education highlights the importance of building self-confidence and not shaming students in the educational setting (Harrison, 2011; Perso & Hayward, 2015; Price, 2012).

6.4.4 Summary

The data from this research specified that Montessori pedagogy supported language learning and development in a remote Aboriginal Early Childhood program in three ways: one-on-one learning; AIEO participation; and Montessori curriculum and development. Literature stressed the significance of Montessori pedagogy providing a teaching and learning pedagogy that reinforced and appreciated Aboriginal culture, especially, the embedding of the Ngaanyatjarra language.

6.5 COMMUNITY ENGAGEMENT

In what ways has Montessori pedagogy engaged community members to interact within a remote Aboriginal Early Childhood program?

The outcomes of the research indicated that community members engaged in the remote Aboriginal Early Childhood that was using Montessori pedagogy. Two themes evident from the study were: visits from parents and caregivers; and classroom environment and structure. Current literature and policy documents in Aboriginal and Early Childhood education are consistent with these themes (DEEWR, 2009; DEEWR, 2016; Department of Education Western Australia, 2015; Guenther, 2012; Harrison & Selwood, 2016; Munns, O'Rourke & Bodkin-Andrews, 2013; National Congress for Australia's First Peoples, 2016; Perso & Hayward, 2015).

6.5.1 Visits from parents and caregivers

The findings of this research point to the positive partnerships between the school staff (teachers and AIEO's) and the parents and caregivers. Current policy documents highlight that, "Children thrive when families and educators work together in partnership to support young children's learning" (DEEWR, 2009, p. 9). Montessori pedagogy created a positive one-on-one learning environment for parents and caregivers to engage in their children's learning. The data suggested that parents and caregivers were able to engage in positive teaching and learning experiences with their child in Ngaanyatjarra and in SAE. Current policy documents indicate that schools that work in partnership with the community have opportunity for greater success in making sustainable change (Department of Education Western Australia, 2012; MCEEDYA, 2010).

It is essential for schools to build strong relationships with the parents, caregivers and wider community. To build strong relationships, all school staff need to be patient, respectful and build their knowledge and acceptance of cultural traditions community (Commissioner for Children and Young People, 2015; Department of Education Western Australia, 2015; Harrison & Selwood, 2016; Lester, 2013; McKnight, 2016; Munns, O'Rourke & Bodkin-Andrews, 2013; Nakata, 2007; National Congress for Australia's First Peoples, 2016; Osborne, 2013; Perso & Hayward, 2015). The purpose of undertaking this research study was to explore whether the outcomes of an alternative Montessori pedagogy would provide a more culturally appropriate education for this remote Aboriginal Early Childhood classroom. It would appear from the responses of the parents and caregivers that such a curriculum may facilitate greater community participation.

6.5.2 Classroom environment and routines

The data from this study revealed that the Montessori classroom was engaging to parents, caregivers and the wider community. In addition, the classroom environment fostered positive teaching and learning experiences for the students and their families to share with one another. The importance of community involvement is crucial in the link between the home and school environment as parents/caregiver and families are "children's first and most influential educators" (DEEWR 2009, p. 5). Early Childhood environments should support relationships and engagement of parents, caregivers and

the wider community. The Montessori class in this research was clean, organised and welcoming to visitors. The aim of Montessori pedagogy is to provide children and visitors with learning environment that enhance and support “development of social, intellectual and ethical independence” (Montessori Australia Foundation 2011, p. 3).

Current policy documents in Early Childhood education highlight that, learning environments should be welcoming to students, parents and caregivers and the community (ACECQA, 2010; DEEWR, 2009.). As stated, “Learning environments are welcoming spaces when they reflect and enrich the lives and identities of children and families participating in the setting and respond to their interests and needs” (EYLF, 2009, p. 15). Learning environments should permit Aboriginal parents, caregivers and the wider community to support their children’s education and attendance. Providing a culturally inclusive and best practice teaching and learning environment can “help Aboriginal children get the best start to life” (Department of Education Western Australia, 2012, p. 5). Evidence from this study into the impact of Montessori pedagogy in a remote Aboriginal Early Childhood program suggests that the classroom environment and routines play an important role in engaging parents and caregivers in their children's education.

6.5.3 Summary

The findings of this study highlighted the impact of Montessori pedagogy on community engagement in a remote Aboriginal Early Childhood program in two ways: visits from parents and caregivers; and classroom environment and structure. The importance of Montessori pedagogy providing a teaching and learning practice that strengthened and respected the building of strong relationships with the parents, caregivers and wider community in the remote context is well supported by current research.

6.6 CONCLUSION

This chapter provided an explanatory and analytical discussion of the data provided in Chapter Five. The data presented for each of the four key themes alongside relevant literature according to each specific research question. This chapter provides the basis for the final chapter: Chapter Seven: Conclusion.

CHAPTER SEVEN

CONCLUSION

7.1 PURPOSE OF THE RESEARCH

The purpose of the research was to observe and describe the effect of Montessori pedagogy in a remote Aboriginal Early Childhood program to ascertain whether this alternative method of education provides a more culturally appropriate practice. The Closing the Gap Report 2016 stated that the majority of Indigenous children in remote locations are not reaching minimum standards (DPMC, 2016). Thus, underpinning this study, is the belief that Aboriginal children must be provided with every opportunity to reach, or exceed, minimum standards in literacy and numeracy. Montessori pedagogy may enable Aboriginal Early Childhood students in a remote community to engage more readily in the learning program, thus supporting the development of their literacy and numeracy skills.

7.2 DESIGN OF THE RESEARCH

The methodological structure underlying this research was that of an individual case study. This individual case study of the Early Childhood class in Papulankutja Remote Community was explored to better understand the effect of Montessori pedagogy within a remote Aboriginal Early Childhood program. The general research question for this study was: What is the effect of Montessori pedagogy on Aboriginal students in a remote Early Childhood program? The four specific research questions to be addressed were:

1. In what ways do Aboriginal students respond to Montessori pedagogy within a remote Early Childhood program?
2. In what ways has Montessori pedagogy impacted on student behaviour within a remote Aboriginal Early Childhood program?
3. In what ways has Montessori pedagogy impacted on language learning and development within a remote Aboriginal Early Childhood program?
4. In what ways has Montessori pedagogy engaged community members to interact within a remote Aboriginal Early Childhood program?

Data collection methods used were: (a) video recording and an observational framework by the teacher-researcher; (b) journal writing by the teacher-researcher; (c)

ten observational frameworks completed by the critical friend; and (d) three one-on-one interviews with the informant. The teacher-researcher video recorded the classroom program at various times during the week to document daily events and activities. The data were recorded using the observational framework. The teacher-researcher maintained a journal throughout the study recording her annotations and impressions of how the participants in the remote Aboriginal Early Childhood class responded to Montessori pedagogy. The critical friend observed the program and completed observational records (general and individual).

Data analysis consisted of identifying themes through content analysis and use of research questions. Content analysis was applied to the journal entries, general observational framework, the individual observational framework and transcribed informant one-on-one interviews. These forms of data provided anticipatory data consolidation through the use of themes and key words. Interim data consolidation was utilised through coding (Miles & Huberman, 1994). For the data presentation, the journal entries, general and individual observational frameworks, and transcribed informant one-on-one interviews were colour-coded according to themes. Conclusions were drawn directly from the research questions and supported by the data through content analysis.

7.3 GENERAL RESEARCH QUESTION ADDRESSED

What is the effect of Montessori pedagogy on Aboriginal students in a remote Early Childhood program?

The findings from this study draw numerous comparisons between Montessori pedagogy, traditional Aboriginal child-rearing techniques and The Early Years Learning Framework (EYLF) (DEEWR, 2009). The EYLF is the key policy for Early Childhood education in Australia. This Framework has five specific principles and outcomes (Table 7.1). To address the general research question, links will be drawn between the findings of this research into Montessori pedagogy in a remote Aboriginal Early Childhood program and the five principles of the EYLF.

Table 7.1

Five principles of the EYLF (DEEWR, 2009, p. 12-13).

Principle One	Secure, respectful and reciprocal relationships
Principle Two	Partnerships
Principle Three	High expectations and equity
Principle Four	Respect for diversity
Principle Five	Ongoing learning and reflective practice

7.3.1.1 Principle One: Secure, respectful and reciprocal relationships (DEEWR, 2009, p. 12)

The teacher-researcher, critical friend and informant collectively reported that the remote Aboriginal Early Childhood students of this study were engaged and confident in their learning experiences (DEEWR, 2009). Specifically, the informant highlighted that the students were engaged and concentrated on their tasks as they were of personal interest. She commented, “They are making their choice because they are interested.” The students displayed a sense of self-confidence and respect (DEEWR, 2009). They actively participated in the learning environment both independently and with their peers (DEEWR, 2009; Montessori Australia Foundation, 2009). Another student response to Montessori pedagogy was that of autonomy. Specifically, the critical friend noted the “natural autonomy” of remote Aboriginal students and how this response aligns with traditional child-rearing techniques. The Montessori program in this study provided the students with a “secure base for exploration and learning” (DEEWR, 2009, p. 12).

During the data collection period, the informant observed that the participants of this study supported the “visiting students”, that is, students who were stopping over for short periods of time in the classroom. The informant commented:

Yuwa (yes)! They (Papulankutja kids) proud of it! They really proud that it’s in Blackstone. They know what they have do but when they go to another school they don’t feel comfortable and they think back that Blackstone way is better, doing that Montessori. And it’s *ninti* (smart).

The informant highlighted that the students of the remote Aboriginal Early Childhood program were proud of their learning environment. The regular students assisted the

visiting students attending the program to learn about the responsibilities by a combination of teamwork and collaboration with their peers. The students, teacher-researcher and AIEOs interacted in ways that demonstrated the secure, respectful relationships that they had developed in the learning environment.

7.3.1.2 Principle Two: Partnerships (DEEWR, 2009, p. 12)

The teacher-researcher commented on the strategies that she employed when working one-on-one with AIEOs to prepare the Montessori Language materials. This process of the adults collaborating together helped the students to directly develop their skills in SAE and promoted the partnership between the teacher-researcher and the AIEOs. An example of working in partnership with the AIEOs in the learning environment was the use of sandpaper letters. Specifically, the informant noted that the teacher-researcher and the AIEOs were able to work together to cater for language development needs specific to the student's level of SAE and Ngaanyatjarra. She commented:

I can see the difference that when there's a big group to when there is one-on-one learning. There is interference in the big group and then there's nothing when it's one-on-one. Those *tjitji* (child), they learning. *Yuwa* (yes), *walykumunu* (good).

Montessori pedagogy provided the teacher-researcher and the AIEOs with a structure to engage in one-on-one active teaching and learning in Ngaanyatjarra and SAE (DEEWR, 2009; Montessori Australia Foundation, 2009). In addition, one-on-one learning provided a structure for parents, caregivers and families to engage in the teaching and learning environment (DEEWR, 2009). The research showed that parents, caregivers and the wider community were welcomed into the classroom environment and engaged in active participation and learning with their child. Specifically, the critical friend remarked that when parents and caregivers visited the program "they feel comfortable and validated." This statement by the critical friend is evidence of a culturally sensitive and genuine partnership between students, parents, caregivers, community members, AIEOs and the teacher-researcher. The teacher-researcher and the AIEOs worked together to share ideas and collectively make curriculum decisions. The teacher-researcher felt privileged to work alongside Ngaanyatjarra people in the day-to-day classroom routines and especially in conducting this study.

7.3.1.3 Principle Three: High expectations and equality (DEEWR, 2009, p. 12)

The teacher-researcher, critical friend and informant reported that the students were able to freely select their own work and carry out the learning tasks with minimal teacher interruption. The students demonstrated levels of high expectation as they were independently accountable for their learning (DEEWR, 2009). Specifically, the teacher-researcher noted that students were able to pause and restart their learning activity when they wished. The teacher-researcher observed an example:

After fourteen minutes, the student indicated she was getting tired and would like to pause the work. The student collected her laminated name from the wall and places it at her desk. Subsequently, no other students were allowed to touch this work.

The action of pausing the learning activity highlighted the student's ability to recognise when she required a short break. In addition, the student's peers respected her choice to pause and did not interfere with the activity. The process of pausing and returning to the activity provided a clear practice to ensure "all children have opportunities to achieve learning outcomes" (DEEWR, 2009, p. 13).

The informant commented on the concentration levels observed. She noted:

The difference in Montessori is when *tjitji* (child) come in (to the classroom) and they (the child) chose what they want to do. They really focus on what they trying to do. The teacher can come, sit down and work with the *tjitji* (child). There is no other humbugging cause they're (the other students) all doing other work (pointing around the different parts of the room). They are making their choice because they interested.

Students held high expectations of themselves in the Montessori learning environment. Independently the students took ownership of their learning experiences (Montessori Australia Foundation, 2009). As a result, the students were able to "achieve educational success" (DEEWR, 2009, p. 13).

The teacher-researcher, critical friend and informant commented on the presence of peer modelling within the program. For example, the critical friend stated, "older students model positive classroom behaviours and the younger students copy these behaviours." Through peer modelling, students were able to demonstrate their learning experiences to those visiting the classroom. Students, parents, caregivers and

family members interacted in a positive way showing reciprocal relationships. The informant highlighted an example of positive relationships. She remarked:

Yuwa (yes), I see when the mummy comes in to sit down in the class. She (the mummy) is watching, looking after the kids and helping them in Ngaanyatjarra. Sitting down one on one with her child.

This observation made by the informant is evidence that Montessori pedagogy involves students, parents, caregivers and family members as active participants in their child's learning. These opportunities provided practices for effective "inclusion and participation" in students' learning (DEEWR, 2009, p.13).

7.3.1.4 Principle Four: Respect for diversity (DEEWR, 2009, p. 13)

The teacher-researcher, critical friend and informant noted that the Montessori curriculum and practices in the program supported the "values and beliefs of the individual families and communities" (DEEWR, 2009, p. 13). The findings indicated that the needs of the children and their families were being incorporated into the classroom routine. Specifically, the critical friend stated that the language development and learning program "made allowances for one-on-one teacher learning" with the teacher-researcher and the AIEO's. The program respected the students' culture and most importantly, home language. As stated in the EYLF (DEEWR, 2009), "respecting diversity means within the curriculum valuing and reflecting the practices, values and beliefs of families" (p. 13). The Montessori program in this study aimed to respect diversity by supporting the students, their families and the wider community's values and beliefs.

The teacher-researcher, critical friend and informant commented on the high transiency of students in the program. As stated in the context chapter, students of the program often travelled to other remote communities for cultural events and may arrive late during the classroom learning routine. For example, the teacher-researcher remarked:

Within the first sixty-minutes of the session, three students arrived separately. Each student entered the classroom, selected a work quietly and began independently. Minimal disruption was made to others.

The program respected the students and families' traditional practices and heritage by providing a classroom routine that minimalised the impact on student learning if the

student was late to class or absent. The Montessori classroom routine provided an independent and autonomous teaching and learning environment for students.

Aboriginal children are encouraged to be autonomous (Harrison & Sellwood, 2016). Self-reliance is a key characteristic of traditional child-rearing techniques (Harrison & Sellwood, 2016). The fourth principle of the EYLF (DEEWR, 2009) highlighted that educators must support “histories, cultures, languages, traditions, child rearing practices and lifestyle choices of families” (p. 13). The findings of this study confirmed that the classroom supported autonomy and self-reliance. For example, the informant commented in an interview:

I started to see kids focusing on what they wanted to do. And I was thinking “wow, this is good, this is a good way of learning”. Cause if we have kids with problems like hearing, “they can’t sit down and then they get up quick”. But they are sitting down... (With the teacher) and taking time... one-on-one... they not getting up and coming and going. (Then other kids start) Thinking “Hey! She’s not walking out, she’s just doing it” and then they thinking “Hey! I’ll just sit down do something like that” *Yuwa* (yes), and it works for the *tjitji* (child), cause all the little kids, they want to do something by themselves, *yuwa* (yes). So it’s a really good way of teaching, with Montessori.

This observation by the informant is evidence of the respect for diversity in the Montessori program. The teaching and learning experiences can be presented in SAE or in Ngaanyatjarra by the teacher-researcher and the AIEOs. The students are “born belonging to a culture” (DEEWR, 2009, p. 13). The Montessori Early Childhood program supported and respected the students, families and wider communities Ngaanyatjarra culture.

7.3.1.5 Principle Five: Ongoing learning and reflective practice (DEEWR, 2009, p. 13)

The informant observed that the AIEOs of the program provided a crucial link between the students’ home and school life. The AIEOs were able to communicate to the students in their home language, Ngaanyatjarra. The teacher-researcher and the AIEOs collaborated on a regular basis. The teacher-researcher worked one-on-one with AIEOs to present a range of Montessori materials in Practical Life, Sensorial Education, Mathematics but especially Language, to cater to the child’s current level of development in both Ngaanyatjarra and SAE. The teacher-researcher and the AIEOs

became co-learners and worked together to build their professional knowledge of Montessori teaching and learning practices. For example the teacher-researcher commented:

The AIEO worked one-on-one with a six-year old student on a mat to present the letters f, j and r in the three-period lesson format. The AIEO checked the student sandpaper letters record sheet to identify which sounds the student was currently working on. The AIEO used the child's home language (Ngaanyatjarra).

This statement by the teacher-researcher reinforces the AIEOs professional teaching and learning practice with students. The teacher-researcher and AIEOs collaborated to discuss the process to complete the sandpaper letters presentation with the student sandpaper letters record sheet. The AIEOs presented educational lessons to the children in Ngaanyatjarra instructional language however, the content was communicated in SAE. AIEOs of the program are the bridge between the students' home and school life (DEEWR, 2009).

7.3.2 Conclusion

The findings of this research have been linked to the EYLF (DEEWR, 2009). The specific research questions related to student response, student behaviour, language learning and development, and community engagement. The findings of this research clearly indicate the potential for Montessori pedagogy as a viable alternative practice of education for remote Aboriginal Early Childhood students. Section 5.2 described the findings of this research directly relating to the four specific research questions. The researcher of this study noticed a strong link between the EYLF (DEEWR, 2009) and the specific research questions. These findings were strongly reflected in the five principles of the EYLF (DEEWR, 2009) and the four specific research questions.

7.4 SUMMARY

This research has made a contribution to the scholarly debate on Montessori pedagogy within a remote Aboriginal Early Childhood program. Due to the limited body of literature in the area, the study indicated that Aboriginal students in a remote Early Childhood program may be constructed with a readymade disposition to Montessori pedagogy. Tjitayi (2013) commented on *Anangu* (Aboriginal) education and the need to find an education process that supports Aboriginal children. She noted:

If a tree is not growing properly, we have to seek really hard to find the problem. When we look at the tree, we see only to top part but we need to look deeper at the roots. We must look deep inside to see what is not working. In *Anangu* education, sometimes we spend all out time looking at the leaves and the branches, but we need to look well below the group to understand what is it really happening to our children...We need to see the education process as beginning from a seed and think about how we can support the growth of our children to stand strong on their own (p. 10).

Within the Montessori pedagogy program observed in this study, the Early Childhood students learnt to take responsibility for their own learning and to be purposeful. Additionally, the students learnt to be persistent, not give up on a challenging task and recognised the benefits of sharing with others. Remote Aboriginal Early Childhood students exercise high levels of autonomy within traditional Aboriginal child-rearing techniques and Montessori pedagogy supports these behaviours.

7.5 IMPLICATIONS AND RECOMMENDATIONS FOR THE PROFESSION

The research on Montessori pedagogy within a remote Aboriginal Early Childhood program has implications for the following stakeholders:

- Department of Education, Employment and Workplace Relations (DEEWR) encompassing, Department of Education Western Australia and the Ngaanyatjarra Lands School Network
- Association Montessori Internationale (AMI) encompassing Montessori Australia Foundation
- Aboriginal and Islander Education Officers (AIEOs)
- Parents, caregivers and wider community of Papulankutja Remote Community
- University's School of Education
- Remote Teaching Service

7.5.1 Department of Education, Employment and Workplace Relations (DEEWR) encompassing, Department of Education Western Australia and the Ngaanyatjarra Lands School Network

This study has implications for The Department of Education, Employment and Workplace Relations (DEEWR) encompassing, Department of Education Western Australia and the Ngaanyatjarra Lands School Network. Trialling an alternative method of education may address “closing the gap” (DEEWR, 2016, p.1) between Indigenous

and non-Indigenous students in Australia. Montessori pedagogy in a remote Aboriginal Early Childhood program may have the capacity to align traditional child-rearing techniques and the EYLF (DEEWR, 2009). Government agencies of Australia who are designing curriculum for Aboriginal and Torres Strait Islander students might well consider this study.

7.5.2 Association Montessori Internationale (AMI) encompassing Montessori Australia Foundation (MAF)

This study has implications for the Association Montessori Internationale (AMI) and specifically, Montessori Association Foundation (MAF) in Australia. The process of delivering Montessori training may need to be reconsidered to make the pedagogy more accessible to teachers and AIEO's in remote Aboriginal communities. In addition, Montessori training could be extended to parents, caregivers and the wider community to build strong partnerships between the school and wider community. The teacher-researcher acknowledges the issues that surround Aboriginal education are complex and no single alternative method of education would contest these concerns. However, Montessori pedagogy should be acknowledged as an alternative method of education in a remote Aboriginal setting.

7.5.3 Aboriginal and Islander Education Officers (AIEOs)

This study has implications for the training of Aboriginal and Islander Education Officers (AIEOs). AIEOs are the bridge between the students' home and school life. Therefore, AIEOs should be provided with adequate initial and ongoing training to support their professional development. Particularly, the Department of Education Western Australia could reconsider the current education support training programs for AIEOs to include an introduction to Montessori teaching and learning practices, especially in remote Aboriginal contexts.

7.5.4 Parents, caregivers and wider community of Papulankutja (Blackstone) Remote Community

The findings of this research indicate active participation of parents, caregivers and the wider community can provide strong teaching and learning opportunities for students in remote Aboriginal Early Childhood classrooms. This research clearly highlights the importance of the role of parents and caregivers in their children's

development and the school. Parents, caregivers and wider community should be included in children's teaching and learning environment as they are the first teachers in a child's life. The implication of this study lies in the need for parents, caregivers and wider community of Papulankutja (Blackstone) Remote Community and schools to work side-by-side to support students' learning and development.

7.5.5 University's School of Education

This study has implications for University's School of Education providers. Pre-service teachers could be alerted to alternative methods of education, including Montessori pedagogy. Current Aboriginal education literature stated that "little change" (DMPC, 2016, p. 6) has been made to closing the gap between Indigenous and non-Indigenous students. University's School of Education providers may wish to provide more information on alternative methods to deliver a more culturally relevant teaching and learning environment for Indigenous students.

7.5.6 Remote Teaching Service (RTS) programs

This study has implications for the Remote Teaching Service (RTS) programs in Australia. Remote Teaching Service (RTS) programs aim to provide teachers in remote schools with a solid foundation of information for working with remote Indigenous students and building relationships with the parents, caregivers and members of the wider community (Department of Education Western Australia, 2016). The programs may need to be adapted to provide teachers who are beginning their work with Early Childhood students in remote Aboriginal communities with information regarding alternative educational approaches to better suit traditional Aboriginal child-rearing techniques. An alternative approach that could be discussed with beginning teachers is Montessori pedagogy.

7.6 FUTURE DIRECTIONS

This study suggests two future research possibilities. Firstly, a longitudinal study could be undertaken that observes the Papulankutja Campus Early Childhood students over an extended period of time, for example, one to five years. The study could be undertaken at the beginning and end of each school year. A longitudinal study would allow for fine-tuning of the current study and for possible greater generalisation of Montessori pedagogy within a remote Aboriginal Early Childhood program.

Secondly, the research could be extended to several simultaneous studies across a variety of contexts. The current study focused on the Ngaanyatjarra Lands School Network, Papulankutja Campus Early Childhood students. The study could be expanded to include Kiwirrkurra Campus Early Childhood students as this classroom piloted Montessori pedagogy in 2012. Research could be extended to other Montessori pedagogy programs in Indigenous programs in Australia. For example (a) Torres Strait Islands: Thursday Island, Badu, Kubin, Boigu, Iama, Poruma and Erub (b) Aurukun, Cape York, (c) Lockhart River, Cape York, (d) Redfern, New South Wales, and (e) Armidale, New South Wales. The future research possibility could lead to greater capacity for generalisation and cross-context comparison.

7.7 PERSONAL IMPACT

The motivation for this research stemmed from the researcher's involvement and passion in remote Aboriginal education in two of the most remote communities in Australia. The researcher was concerned about the quality of education being provided to Aboriginal students in these remote contexts. She feels that the findings from this study suggest that Montessori pedagogy has the potential to provide a more culturally relevant teaching and learning practice for remote Aboriginal Early Childhood students. The researcher believes that Montessori pedagogy provides a practice where the classroom teacher and AIEOs can work together in the learning environment. Montessori pedagogy accepts the "histories, culture, languages, traditional, child-rearing practices and lifestyle choices" (DEEWR, 2009, p. 13) of the Ngaanyatjarra families. Montessori pedagogy allowed the researcher to build relationships with AIEOs, parents and the wider community that are friendships for life. In fact, Montessori pedagogy was the vehicle for providing the initial connection. From her studies, the researcher believes that the Montessori classroom is a unique teaching and learning environment as the space belongs to the students and not to the teacher. The teacher only prepares the environment. The parents, caregivers, wider community and AIEOs feel safe and secure entering the learning environment because the children have ownership, not the teacher. The researcher took the initiative to undertake her own research into Montessori pedagogy. From this research, she has confirmed her passion in Aboriginal education specifically, Early Childhood education students and Montessori pedagogy. Since the completion of the research, she has travelled to Italy to complete the Association

Montessori Internationale (AMI) Primary Diploma and has been exposed to a method of education that supports Indigenous students' culture and their natural development.

Appendix A

Teacher-researcher: Observational Framework (Sample)

Observational Framework

Please comment on the following areas

Date/Time	Who	Observation	Theme
Name of Observer		Date of Observation	

Appendix A

Teacher-researcher: Observational Framework (Example)

Teacher-Researcher Observational Framework

Please comment on the following areas

Date/Time	Who	Observation	Theme
Thursday- 17 th October 2013, 8.45am	Teacher- researcher	<ul style="list-style-type: none"> - Organised the classroom, cleaning the shelves and making the jobs desirable. - Ng Lands planning is ready for the term "what is it made of?" - The classroom jobs have not been changed from last term to try as ascertain what jobs the students are still interested - Attendance: seems that lots of kids are in the community and attendance should be high 	Montessori Classroom Organisation Attendance
	Papulankutja Students: first day back to term	<ul style="list-style-type: none"> - Attendance: 7-12 variation through out the day with transiency - Students were really settled in the morning - The students quickly moved into their jobs - Concentration was high - Students were able to pack away their jobs - Worked well with transiency as students could move in and out with minimal disruption of others 	Attendance Transiency Concentration Transiency
1.25pm	Visiting Parents	<ul style="list-style-type: none"> - Afternoon had changed a lot with a fight occurring at lunch and they did not seem to resume full concentration and retention - Two visiting mothers due to behavior issues with S and J. - Two 30 minute video observations recorded: see notes below - 	Independent Learning Concentration Parents and Family engagement
Filming Session 10.00am	Kindy student	Film Session 1: Circle time to select a job then job session <ul style="list-style-type: none"> - Choosing a teacher to select students to move away to choose work autonomy - Students move at their own pace - Walking around finding something of there interest - Disruptive behavior is not noticed by others who are working constructively - J is rolling on the floor but T talks with him one on one 	Autonomy Self-paced learning Concentration One-on-one
	All students	<ul style="list-style-type: none"> - J is able to hear the T better is it is one on one and better for otitis media/hearing loss as there is less background noise - Able to direct students individually to jobs as others are completing tasks - Classroom noise is minimal, only movement 	One-on-one due to hearing loss Independence

Appendix B

Critical Friend: General Observational Framework Part A (Sample)

Please comment on the following areas	
Montessori Teaching and Learning Practices Key Indicators	What are the differences from Montessori to Mainstream teaching?
<p><i>Role of the Classroom</i></p> <p>Things to consider...</p> <ul style="list-style-type: none"> - mini community/ home-like - learning how to be a part of a family - quiet and calm workplace - classroom has beauty and order, light filled room without clutter to avoid over stimulation - materials being at students eye level - not having their own table but shared spaces - everything in the classroom having its own place 	
<p><i>Role of the Montessori Materials</i></p> <p>Things to consider...</p> <ul style="list-style-type: none"> - link to real life - purposeful and meaningful - didactic - child size - developmentally appropriate curriculum - inbuilt control and error - made of natural materials where possible - same all over the world - each material has a purpose, set task or outcome - use of senses - length of time a child stays with the materials - opportunity for repetition - inbuilt social skills - 100 years of refinement 	
<p><i>Role of a Teacher</i></p> <p>Things to consider...</p> <ul style="list-style-type: none"> - student centred - one-on-one learning - teachers role as a director/directress - teacher conducts presentations - sharing learning environment with family - linking learning environment to culture 	
<p><i>Role of the Student</i></p> <p>Things to consider...</p> <ul style="list-style-type: none"> - independence - confidence - valued member of the classroom community - selecting and Packing away a 'job' - the kind of work they are selecting - concentration - student collaboration - social interaction - cleaning up after themselves 	
Name of Observer	Date of Observation

Appendix B

Critical Friend: General Observational Framework Part A (Example)

APPENDIX A
General Observation Recording Framework 2

Please comment on the following areas

Montessori Teaching and Learning Practices Key Indicators	How do you think Montessori can support remote aboriginal education?
<p>Role of the Classroom</p> <p>Things to consider...</p> <ul style="list-style-type: none"> - mini community/ home-like - learning how to be a part of a family - quiet and calm workplace - classroom has beauty and order, light filled room without clutter to avoid over stimulation - materials being at students eye level - not having their own table but shared spaces - everything in the classroom having its own place 	<p>less of a difference</p> <ul style="list-style-type: none"> • reduces degree of a these stark/adjustment • promotes calm, cooperation • the quiet reduces emotional outbursts CO. * the language order a pleasant contrast to the community environment • students are naturally autonomous this does not conflict with their autonomy • they are learning to keep their space tidy - clean, read from most hours.
<p>Role of the Montessori Materials</p> <p>Things to consider...</p> <ul style="list-style-type: none"> - link to real life - purposeful and meaningful - didactic - child size - developmentally appropriate curriculum - inbuilt control and error - made of natural materials where possible - same all over the world - each material has a purpose, set task or outcome - use of senses - length of time a child stays with the materials - opportunity for repetition - inbuilt social skills - 100 years of refinement 	<p>• they need to learn life skills.</p> <p>• bridges language gap.</p> <p>* caters for wide variety of levels of development.</p> <p>• reduces impact of consumerism, throw-away attitude.</p> <p>• no time wasting, important of stimulus of things.</p> <p>• suits the individual.</p> <p>• they are used to finishing the work so this reduces effort.</p> <p>• teaching where there is a lack at home.</p> <p>Cherie (M)</p>
<p>Role of a Teacher</p> <p>Things to consider...</p> <ul style="list-style-type: none"> - student centred - one-on-one learning - teachers role as a director/directress - teacher conducts presentations - sharing learning environment with family - linking learning environment to culture 	<p>• students are already autonomous.</p> <p>• not needed by everyone at once - reduces classroom clutter.</p> <p>• the individual roles of the teacher with hearing loss, little comprehension of English.</p> <p>• parents, carers able to be in room, helps with hearing, language difficulties.</p> <p>• the classroom is less unfamiliar.</p> <p>AEO.</p>
<p>Role of the Student</p> <p>Things to consider...</p> <ul style="list-style-type: none"> - independence - confidence - valued member of the classroom community - selecting and packing away a 'job' - the kind of work they are selecting - concentration - student collaboration - social interaction - cleaning up after themselves 	<p>• caters to their natural autonomy.</p> <p>• they are not obviously better or worse than anyone else.</p> <p>• validated for their efforts.</p> <p>• again, autonomy.</p> <p>• and do it well independently.</p> <p>• valued.</p> <p>• develops a new skill.</p>
<p>Name of Observer <u>ALEXCAT</u></p>	<p>Date of Observation <u>1/10/13</u></p>

Appendix B

Critical Friend: General Observational Framework Part B (Sample)

Please comment on the following areas

Montessori Teaching and Learning Practices Key Indicators	How do you think Montessori can support remote aboriginal education?
<p><i>Role of the Classroom</i></p> <p>Things to consider...</p> <ul style="list-style-type: none"> - mini community/ home-like - learning how to be a part of a family - quiet and calm workplace - classroom has beauty and order, light filled room without clutter to avoid over stimulation - materials being at students eye level - not having their own table but shared spaces - everything in the classroom having its own place 	
<p><i>Role of the Montessori Materials</i></p> <p>Things to consider...</p> <ul style="list-style-type: none"> - link to real life - purposeful and meaningful - didactic - child size - developmentally appropriate curriculum - inbuilt control and error - made of natural materials where possible - same all over the world - each material has a purpose, set task or outcome - use of senses - length of time a child stays with the materials - opportunity for repetition - inbuilt social skills - 100 years of refinement 	
<p><i>Role of a Teacher</i></p> <p>Things to consider...</p> <ul style="list-style-type: none"> - student centred - one-on-one learning - teachers role as a director/directress - teacher conducts presentations - sharing learning environment with family - linking learning environment to culture 	
<p><i>Role of the Student</i></p> <p>Things to consider...</p> <ul style="list-style-type: none"> - independence - confidence - valued member of the classroom community - selecting and Packing away a 'job' - the kind of work they are selecting - concentration - student collaboration - social interaction - cleaning up after themselves 	
Name of Observer	Date of Observation

Appendix B

Critical Friend: General Observational Framework Part B (Example)

APPENDIX A

General Observation Recording Framework 1

Please comment on the following areas

Montessori Teaching and Learning Practices Key Indicators	What are the differences from Montessori to Mainstream teaching?
<p>Role of the Classroom</p> <p>Things to consider...</p> <ul style="list-style-type: none"> - mini community/ home-like - <i>More adults a greater difference betw. here + sch.</i> - learning how to be a part of a family - <i>1/5 students largely new age</i> - quiet and calm workplace - <i>1/5 often very noisy</i> - classroom has beauty and order, light filled room - <i>1/5 tends to be busy, lot of ground work</i> - without clutter to avoid over stimulation - materials being at students eye level - <i>1/5 materials often 2 mtr high, a lot of low</i> - not having their own table but shared spaces - <i>1/5 students use their own desk + chairs</i> - everything in the classroom having its own place - <i>1/5 like this but less so, depending on the school</i> 	
<p>Role of the Montessori Materials</p> <p>Things to consider...</p> <ul style="list-style-type: none"> - link to real life - <i>often irrelevant</i> - purposeful and meaningful - <i>purpose is often unclear</i> - didactic - <i>teaching point not always understood by students</i> - child size - <i>varying according to availability</i> - developmentally appropriate curriculum - <i>does not always cater to target</i> - inbuilt control and error - made of natural materials where possible - <i>usually synthetic</i> - same all over the world - not always - each material has a purpose, set task or outcome - <i>some are time fillers</i> - use of senses - <i>may do, but not planned deliberately</i> - length of time a child stays with the materials - <i>dictated by teacher, timetable</i> - opportunity for repetition - inbuilt social skills - <i>not always deliberately planned for</i> - 100 years of refinement <p><i>→ consolidate new skills, teaching methods, philosophies</i></p>	
<p>Role of a Teacher</p> <p>Things to consider...</p> <ul style="list-style-type: none"> - student centred - <i>teacher / group centred</i> - one-on-one learning - teachers role as a director/directress - <i>Most often do whole class</i> - teacher conducts presentations - <i>teacher presents to class / group</i> - sharing learning environment with family - <i>depends on teacher's philosophy</i> - linking learning environment to culture - <i>not always acknowledged or accepted</i> 	
<p>Role of the Student</p> <p>Things to consider...</p> <ul style="list-style-type: none"> - independence - <i>depends on to encourage it</i> - confidence - <i>students are aware of being ahead or behind</i> - valued member of the classroom community - <i>depends on teacher</i> - selecting and Packing away a 'job' - <i>students given little opportunity to choose</i> - the kind of work they are selecting - <i>not always acknowledged or accepted</i> - concentration - <i>not always acknowledged or accepted</i> - student collaboration - <i>group work often forced</i> - social interaction - <i>students often help each other that they don't like, bully</i> - cleaning up after themselves <p><i>this is done to a degree, and personal resp. is reduced</i></p>	
<p>Name of Observer <u>ANNECH</u> Date of Observation <u>12/10/13</u></p>	

Appendix C

Critical Friend: Individual Observational Framework Part A (Sample)

Student Name	DOB	Year Level
--------------	-----	------------

Briefly describe what work the student is completing

Circle which description best applies to the student

<i>Work Type</i> What type of work is the student completing?	<ul style="list-style-type: none"> • Presentation • Working independently • Working with another child • Working with a group
<i>Presentation Type</i> What presentation type is the student completing?	<ul style="list-style-type: none"> • First presentation • Representation • Point of Interest/consciousness • Child presented
<i>Start How</i> How did this work begin?	<ul style="list-style-type: none"> • Independent Choice • Suggested Choice • Directed Choice • Child influence
<i>Engagement</i> How would you describe the students engagement in the work?	<ul style="list-style-type: none"> • Deep Concentration • Concentration • Working but distracted • Quiescent • Slight Disorder • Disorder • Uncontrollable
<i>Finish How</i> How did the student finish their work?	<ul style="list-style-type: none"> • Put away independently • Put away with help from adult • Put away with help from another child • Didn't put away

Name of Observer	Date of Observation
------------------	---------------------

Appendix C

Critical Friend: Individual Observational Framework Part A (Example)

APPENDIX B
Individual Student Observation Recording Framework 1

Student Name JUNIOR REED DOB _____ Year Level _____

Briefly describe what work the student is completing

Junior is painting

Next job construction activity

Circle which description best applies to the student

<i>Work Type</i> What type of work is the student completing?	<ul style="list-style-type: none"> • Presentation <input checked="" type="radio"/> Working independently • Working with another child • Working with a group
<i>Presentation Type</i> What presentation type is the student completing?	<ul style="list-style-type: none"> • First presentation • Representation • Point of Interest/consciousness • Child presented
<i>Start How</i> How did this work begin?	<ul style="list-style-type: none"> <input checked="" type="radio"/> Independent Choice • Suggested Choice • Directed Choice • Child influence
<i>Engagement</i> How would you describe the students engagement in the work?	<ul style="list-style-type: none"> • Deep Concentration • Concentration <input checked="" type="radio"/> Working but distracted • Quiescent • Slight Disorder • Disorder • Uncontrollable
<i>Finish How</i> How did the student finish their work?	<ul style="list-style-type: none"> <input checked="" type="radio"/> Put away independently • Put away with help from adult • Put away with help from another child • Didn't put away

Name of Observer AJEWCA Date of Observation 26.10.2013

Appendix C

Critical Friend: Individual Observational Framework Part B (Sample)

Circle what behaviours the student and teacher are exhibiting in the classroom

Behaviour	Student Exemplar	Teacher Exemplar
Independence	Student selects work	Teachers shapes the choice to promote some educational outcome
Purposefulness	Student can explain why he/she has chosen the work	Teacher can explain how the activity consolidates an understanding, deepens an understanding etc
Orderliness	Student elects to work in a way that will facilitate the completion of the task	Teacher promotes an orderly purposeful classroom by reducing distractions.
Persistence	Student returns to an unfinished task after a break	Teacher retains a map of what each child is doing
Altruism	Student demonstrates prosocial behaviour	Teacher intervenes where a student has behaved antisocially.

Briefly describe what is occurring in the classroom

Name of Observer

Date of Observation

Appendix C

Critical Friend: Individual Observational Framework Part B (Example)

APPENDIX B
Individual Student Observation Recording Framework 2

Circle what behaviours the student and teacher are exhibiting in the classroom

Behaviour	Student Exemplar	Teacher Exemplar
Independence	Student selects work ✓	Teachers shapes the choice to promote some educational outcome
Purposefulness	Student can explain why he/she has chosen the work	Teacher can explain how the activity consolidates an understanding, deepens an understanding etc ✓
Orderliness	Student elects to work in a way that will facilitate the completion of the task ✓	Teacher promotes an orderly purposeful classroom by reducing distractions. ✓
Persistence	Student returns to an unfinished task after a break	Teacher retains a map of what each child is doing
Altruism	Student demonstrates prosocial behaviour ✓	Teacher intervenes where a student has behaved antisocially.

Briefly describe what is occurring in the classroom

2 girls in power struggle or teasing.
 Junior watching intermittently.
 Painting, whistling, humming at times.
 Interrupted by another student.
 Returned straight to painting.
 Directed by teacher to pack up.
 Did so immediately.
 Directed to find another job
 Went straight to a construction activity.
 Sang as he worked.
 Called to me to show me what he'd made.
 Directed to pack away.
 Responded immediately.
 Packed up carefully or slowly.
 Took time to be sure blocks were in box so that
 lid would close.

D.A.1
10-26

Name of Observer
Date of Observation

7

Appendix D

Informant: Transcribed one-on-one interview (Example)

Teacher-Researcher Interview with Informant
Catherine Reed with Ms Daisy Ward
Monday 9th of December 2013

C:	So, what are the things you like about Montessori?
D	<p>Things I like about Montessori, you know like in classroomspa, when you have all the students and you trying to read a story and its like, some kids are interested and some kids aren't. some times they play up and kids that want to learn they can't try and get it and learn the story properly, they cant get the story cause the others kids are mucking around and it's a bit hard. The difference in Montessori, I see the difference is when kids come in and they chose what they want to do they chose if they want to go this way, do their hair by themselves and the other things is that some want to go where there's blocks and build something. Or like build a car try and focus what they trying to do. And the other person is going to reading and she picks a book and sits down and looks at it, and thinks and think looking at the picture and when your reading and then the teacher can come and sit down and read with the tjitji (kid) cause she's really interested in that reading and cause there is no other interference cause their all doing this and doing that, and this and that (pointing around the different parts of the room.) same like that same for numbers mathematics they are taking their choice. One to go pic what they want and sit down on the floor and they have this little tray but little wooden tray and with the lovely red sand and they using their hands and just do the numbers, think again and rub it off and think again, and we are try and put 1 and they do it and they look at it and they think, they ninti (smart kid), they thinking of their journey, when they doing one on one, they kuliliah (listen) they know that as soon as they come in (to the classroom) they know where to go to. Ninti they know where to go to. Same time kids have patience they waiting, two could be doing their hair helping the other girl with their hair and its like they taking turns, they taking turns in circles walgumanu (good), it an opportunity for kids to learn quicker, quicker learner and I see that that's really learning, that really education. Cause I can see the difference side that when there's a big group to when there's only one on one and there is interference there (in the big group) and then there's nothing(one on one) they learn., walgumanu (good). That's why I'm thinking this Montessori, cause I used to think what does that mean (Montessori)?, what's they mean? Then every time I come to your classroom its starting to work on me, it started to click on me, I started to see kindergarten kids focusing on what you wanted to do, and I was thinking wow, this is good this is a good way of learning. Cause if we have a kids with a problems like hearing problemspa, or like somethingpa to cant sit down and then get up quick and do this and this and that but then they sitting down and taking time to one on one, getting up and coming going and coming going and thinking hey, she's not walking out she just doing it and then they thinking hey "ill just sit down do something like that" yuwa, and it works for tjitji (kids), cause all the little</p>

Appendix E

Human Research Ethics Committee Approval from The University of Notre Dame



THE UNIVERSITY OF
NOTRE DAME
A U S T R A L I A

19 Mouat Street (PO Box 1225)
Fremantle, Western Australia 6959
Telephone: +61 8 9433 0555
Facsimile: +61 8 9433 0544
Email: enquiries@nd.edu.au
Internet: www.nd.edu.au

ABN: 69 330 643 210

CRICOS PROVIDER CODE: 01032F

26 August 2013

Professor Shane Lavery
School of Education
The University of Notre Dame, Australia
Fremantle Campus

Dear Shane,

Reference Number: 013102F

Project title: "The introduction of Montessori Teaching and Learning Practices in an Early Childhood classroom in a remote Indigenous school."

Your response to the conditions imposed by the university's Human Research Ethics Committee, has been reviewed and based on the information provided has been assessed as meeting all the requirements as mentioned in the *National Statement on Ethical Conduct in Human Research* (2007). Therefore, I am pleased to advise that ethical clearance has been granted for this proposed study.

All research projects are approved subject to standard conditions of approval. Please read the attached document for details of these conditions.

On behalf of the Human Research Ethics Committee, I wish you well with what promises to be a most interesting and valuable study.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Natalie Giles'.

Dr Natalie Giles
Executive Officer, Human Research Ethics Committee
Research Office

cc: Prof Michael O'Neill, Dean, School of Education;
Prof Chris Hackett, SRC Chair, School of Education.

Appendix F

Government of Western Australia, Department of Education Approval Letter



Government of Western Australia
Department of Education

Your ref :
Our ref : D13/0535573
Enquiries :

Miss Catherine Reed
Early Childhood Teacher
The Ngaanyatjarra Lands School (Blackstone Campus)
PNB 99
Blackstone/Papulankutja Remote Community
VIA ALICE SPRINGS NT 0871

Dear Miss Reed

Thank you for your application received 16 September 2013 to conduct research on Department of Education sites.

The focus and outcomes of your research project, *The Introduction of Montessori Teaching and Learning Practices in an Early Childhood Classroom in a Remote Indigenous School*, are of interest to the Department. I give permission for you to approach the Principal of The Ngaanyatjarra Lands School to invite his school's participation in the project as outlined in your application. It is a condition of approval, however, that upon conclusion the results of this study are forwarded to the Department at the email address below.

Consistent with Department policy, participation in your research project will be the decision of the school invited to participate, individual staff members, the children in that school and their parents/carers. A copy of this letter must be provided to the Principal when requesting his participation in the research. Researchers are required to sign a confidential declaration and provide a current Working with Children Check upon arrival at the schools involved. In your case, you will need to sign the confidential declaration before commencing your research at the Blackstone Campus of The Ngaanyatjarra Lands School.

Responsibility for quality control of ethics and methodology of the proposed research resides with the institution supervising the research. The Department notes a copy of a letter confirming that you have received ethical approval of your research protocol from The University of Notre Dame Human Research Ethics Committee.

Any proposed changes to the research project will need to be submitted for Department approval prior to implementation.

Please contact Ms Bev Vickers, Principal Evaluation Officer, on (08) 9264 4649 or researchandpolicy@education.wa.edu.au if you have further enquiries.

Very best wishes for the successful completion of your project.

Yours sincerely

A handwritten signature in purple ink, appearing to read 'A. Dodson'.

ALAN DODSON
DIRECTOR
EVALUATION AND ACCOUNTABILITY

8 October 2013

151 Royal Street, East Perth Western Australia 6004

Appendix G

Ngaanyatjarra Lands Council Research Agreement

RESEARCH AGREEMENT

BETWEEN

**NGAANYATJARRA COUNCIL
(ABORIGINAL CORPORATION)**

AND

**NGAANYATJARRA LAND COUNCIL
(ABORIGINAL CORPORATION)**

AND

CATHERINE REED

RESEARCH AGREEMENT

THIS AGREEMENT is made this 21 day of October, 2013

BETWEEN:

NGAANYATJARRA COUNCIL (ABORIGINAL CORPORATION) (ICN:101) 58 Head St, Alice Springs NT 0870, (ABN 88 304 990 870), a body incorporated pursuant to the Aboriginal Councils and Associations Act 1976 (Cth) ("the Council"), on behalf of itself, its members and the Ngaanyatjarra Communities.

And

NGAANYATJARRA LAND COUNCIL (ABORIGINAL CORPORATION) (ICN:715), 58 Head St, Alice Springs NT 0870, a body incorporated pursuant to the Aboriginal Councils and Associations Act 1976 (Cth) ("the Council")

And

CATHERINE REED ("the Researcher"), of Papulankutja/Blackstone Community, PMB 99, Via Alice Springs NT 0871

Appendix H

Participant information sheets and consent forms



PARTICIPANT INFORMATION SHEET

PROJECT TITLE: The Introduction of Montessori Teaching and Learning Practices in an Early Childhood Classroom in a Remote Indigenous School.

CHIEF INVESTIGATORS: Associate Professor Shane Lavery and Mrs Glenda Cain

STUDENT RESEARCHER: Miss Catherine Reed

STUDENT'S DEGREE: Master of Education by Research

Yuwa, walgummanu.

Miss C would like to ask you if she can to some research on the little tjitji class.

What is the project about?

The little tjitji class have been using a different way of teaching called Montessori. Maria Montessori started it over 100 years ago in Italy. She wanted to teach kids how to look after themselves and learn how to read, write and count.



Italy 1923



Papulankutja 2013

PARTICIPANT INFORMATION SHEET

Who is undertaking the project?

Miss C, the little class teacher.



What will I be asked to do?

- The tjitji (kids) will be doing their normal school 'jobs' but Miss C will be videoing them.
- After school she will write down what they are doing.



How much time will the project take?

June to December 2013.

Are there any risks associated with participating in this project?

We are only doing our normal 'jobs' and nothing different.

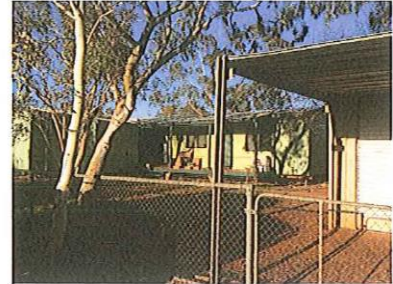
What are the benefits of the research project?

All people can learn what the little tjitji class is like and some other schools could use the Montessori 'jobs'.

PARTICIPANT INFORMATION SHEET

Can I withdraw from the research?

Yuwa. Come and talk with Miss C or Miss Daisy anytime at school or at the green house.



What if I don't want my tjitji in the research?

If you do not want your tjitji in the research that is ok. Miss C will make sure she does not do any writing, take any pictures or any videos of your tjitji, if she accidentally does she will delete it quickly and not show anyone.

Will anyone else know the results of the project?

All videos and notes will be kept secret.

Will I be able to find out the results of the project?

Miss Daisy and Miss C will come and talk to you at the end about what we found out.

Who do I contact if I have questions about the project?

Come and see Miss C at the school, at her house (green house) or at the shop after school.

What if I have a complaint or any concerns?

The study has been approved by the Human Research Ethics Committee at The University of Notre Dame Australia (approval number #####). If participants have any complaint regarding the manner in which a research project is conducted, it should be directed to the Executive Officer of the

PARTICIPANT INFORMATION SHEET

Human Research Ethics Committee, Research Office, The University of Notre Dame Australia, PO Box 1225 Fremantle WA 6959, phone (08) 9433 0943, research@nd.edu.au

Any complaint or concern will be treated in confidence and fully investigated. You will be informed of the outcome.

I want to participate! How do I sign up?

Please sign the form and give it to Miss C or Miss Daisy.

Palya,

Miss C



Catherine Reed

If participants have any complaint regarding the manner in which a research project is conducted, it should be directed to the Executive Officer of the Human Research Ethics Committee, Research Office, The University of Notre Dame Australia, PO Box 1225 Fremantle WA 6959, phone (08) 9433 0943, research@nd.edu.au



**A description of Montessori Teaching and Learning
Practices in a remote Aboriginal early childhood classroom:
A qualitative case study in Western Australia.**

INFORMED CONSENT FORM

Yuwa, walgummanu.

Miss C would like you to sign your name if it is ok if she includes your tjitji in her research. If it is ok, please write your tjitji's name just here and your name at the bottom.

I, *(tjitji's name)*



_____ hereby
agree to being a participant in the above research project.

- I have looked and read the Information Sheet about this project and please asked all my questions to Miss C or Miss Daisy.
- I know I can pull out anytime.
- I understand that all the writing, pictures and videos Miss C will collect that she will keep them safe and not show anyone else.
- I understand that the protocol adopted by the University Of Notre Dame Australia Human Research Ethics Committee for the protection of privacy will be

adhered to and relevant sections of the *Privacy Act* are available at <http://www.nhmrc.gov.au/>

- I agree that any research data gathered for the study may be published provided my name or other identifying information is not disclosed.
- I understand that I and my tjitji will be audio- / video-taped.



Please write your yini here

PARTICIPANT'S SIGNATURE:		DATE:	
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RESEARCHER'S FULL NAME:	Miss Catherine Reed		
RESEARCHER'S SIGNATURE:		DATE:	

If participants have any complaint regarding the manner in which a research project is conducted, it should be directed to the Executive Officer of the Human Research Ethics Committee, Research Office, The University of Notre Dame Australia, PO Box 1225 Fremantle WA 6959, phone (08) 9433 0943, research@nd.edu.au

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