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The introduction of Montessori teaching and learning practices in an early childhood classroom in a remote Indigenous school

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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: Student response | • Concentration and engagement |
| Research question two: Student behaviours | • Student autonomy |
| | • Student independence |
| Research question three: Language development | • Suits students with high transiency |
| | • Student persistence |
| | • Peer modelling |
| Research question four: Community involvement | • One-on-one learning |
| | • Aboriginal and Islander Education Officers (AIEO) participation |
| | • Montessori curriculum and development |
| | • 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.
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.
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, 1cm³ to 10cm³. 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.

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
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).
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](image)

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.
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.

Three themes within research question three: Language learning and development

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 formant. 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.