

https://dspace.org/

Teachers' Understanding, Adoption, and Implementation of the Montessori Method in Selected Montessori Schools in Gauteng, South Africa

Gorgieva, Ruzhica

2023-08
University of the Witwatersrand, Johannesburg
https://hdl.handle.net/10539/41479
Gorgieva, Ruzhica. (2023). Teachers' Understanding, Adoption, and Implementation of the Montessori Method in Selected Montessori Schools in Gauteng, South Africa. [Master's dissertation, University of the Witwatersrand, Johannesburg]. https://hdl.handle.net/10539/41479

Downloaded from a DSpace repository. https://dspace.org/

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Teachers' Understanding, Adoption, and Implementation of the Montessori Method in Selected Montessori Schools in Gauteng, South Africa

Ruzhica Gorgieva

A dissertation submitted to the Wits School of Education,
Faculty of Humanities, University of Witwatersrand in fulfilment of the requirements
for the degree of Master of Education

Johannesburg

2023

ABSTRACT

This research study explored how Montessori teachers understand, adopt, and implement the Montessori Method in a South African context. To these ends the study examined the teachers' understanding of the Montessori Method and their role in the Method, how they implement the Method in their practice, and the psycho-social factors which influenced them to adopt alternative practices. A framework of five authentic Montessori principles were outlined which served as a lens to examine and determine the teachers' subjective understanding, adoption, and implementation of these five principles of the Montessori Method. The study adopted an interpretative paradigm and a qualitative multiple-case approach was utilised. This involved the use of data collection methods as semi-structured interviews and observations of 14 pre-primary Montessori teachers, from six private Montessori schools in Gauteng, South Africa. The findings revealed that the teachers have a comprehensive understanding of the Montessori Method and their understanding of their role in the Method did not differ from Montessori's role descriptions. However, it was found that despite their comprehensive understanding of the Method, the teachers adopted practices which were not congruent with the Montessori Method. The reasons for the adoption of these noncongruent practices included their disagreement with Montessori's ideas, beliefs, financial constraints, parental demands, and quite importantly, the children's disruptive behaviour. It is recommended that Montessori schools should provide parents with clear indication about their adherence to Maria Montessori's practices, and should reveal whether the employed teachers are trained in the Montessori Method. Further recommendations include parental education about the nature of the authentic Montessori Method, to assist them in making the correct decision regarding their children's education.

Keywords: Early Childhood Education; Maria Montessori; Montessori Education; Montessori teacher; Montessori practices; Montessori Method

DECLARATION

I, Ruzhica Gorgieva with student number 2333746, declare that this dissertation is my own unaided work. It is being submitted for the degree of Master of Education by research at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.



Ruzhica Gorgieva

_6th__ day of March in the year _2023_

ACKNOWLEDGMENTS

I wish to wholeheartedly thank my supervisors Dr Peter Aloka and Mr Rashad Bagus for their sustained support, assistance and insightful advice through this Masters study.

Dr Aloka thank you for your words of encouragement in times when I felt like giving up, and thank you for guidance, expertise, wisdom, and emotional support throughout the course of this dissertation - motivating me to pursue and finish this dissertation.

Mr Bagus, no words can convey my gratitude for everything that you have done for me and this study to see the light of day. You have been an integral part of my life and academic journey since the day I entered your lecture room three years ago. I cannot thank you enough for the time you have spent to read, and re-reading every single written word in this dissertation, and for all the advice, support, suggestions, and recommendations that enhanced this study. I could not have finished this dissertation without your wealth of knowledge, expertise, and passion about teaching. I will always be indebted to you! Thank you!

Sincere thanks to all participants who took part in this research study. Thank you for your cooperation, patience, time, and effort to share your views, beliefs, experiences, and knowledge for the purpose of this study. Without you this research would have not been possible!

Sincere gratitude to the principals of the Montessori schools for allowing me to conduct this research at your schools.

To my colleagues, thank you for your emotional and academic support through this whole study. Your continuous support and motivation gave me the strength to see this research study to completion.

My heartfelt gratitude to my daughter and husband, who were my pillars of strength through this journey. I cannot thank you enough for always supporting me, and for all the sacrifices that you have made on my behalf, while I was working on this study.

With gratitude, I recognize the unwavering support of my family, both in Macedonia and South Africa.

To my language editor, Dr Carol Macdonald, deepest gratitude for editing and refining this study.

TABLE OF CONTENTS

ABSTRACT ..... *ii*

DECLARATION ..... *iii*

ACKNOWLEDGMENTS ..... *iv*

LIST OF FIGURES ..... *viii*

LIST OF TABLES ..... *ix*

GLOSSARY ..... *x*

APPENDICES ..... *xi*

CHAPTER ONE: INTRODUCTION AND BACKGROUND *1*

1.1 Introduction and Background to the Study **1**

1.3 Problem Statement **8**

1.4 Rationale of the Study **10**

1.5 Research Objectives of the Study **12**

1.6 Research Question/s **12**

1.6.1 Sub-questions 13

1.7 Theoretical Framework **13**

1.8 Research Design and Methods **14**

1.9 Definition of Key Terms **14**

1.10 Outline of Chapters **15**

1.11 Conclusion **17**

CHAPTER TWO: LITERATURE REVIEW *18*

2.1 Introduction **18**

2.2 Overview of Montessori's Theory of Development **18**

2.3 Montessori Education Across the Globe **24**

2.4 On the Understanding of the Montessori Method **27**

2.4.1 Understanding the Authentic Practices Associated with the Montessori Method 28

2.5 Teachers' Understanding of the Montessori Method **37**

2.6 Teachers' Understanding of their Role in the Montessori Method **44**

2.7 How Teachers' Implement the Montessori Method **50**

2.8 Psycho-Social Factors Pertinent to Method Modification **55**

2.9 Conclusion **61**

CHAPTER THREE: THEORETHICAL FRAMEWORK *63*

3.1 Introduction **63**

3.2 Vygotsky's Cultural-Historical Theory of the Development of Higher Mental Functions **63**

3.3 Piaget's Constructivist Theory of the Development of Cognition **66**

3.4 Conclusion **68**

CHAPTER FOUR: RESEARCH DESIGN AND METHOD ***69***

4.1 Introduction **69**

4.2 Research Paradigm **69**

4.3 Research Method **70**

4.4 Research Design: Multiple Case Study **71**

4.5 Research Sampling **72**

4.6 Data Collection Methods **74**

4.6.1 Semi-Structured Interviews 74

4.6.2 Observation 75

4.6.3 Document Analysis 76

4.7 Data Analysis **76**

4.8 Trustworthiness of Qualitative Data **81**

4.8.1 Credibility 81

4.8.2 Dependability 81

4.8.3 Transferability 82

4.8.4 Confirmability 82

4.9 Ethical Considerations **82**

4.10 Conclusion **83**

CHAPTER FIVE: PRESENTATION OF THE DATA FINDINGS ***85***

5.1 Introduction **85**

5.2 Findings on the Teachers' Understanding of the Montessori Method **85**

5.3 Findings on Teachers' Understanding of their Role in the Montessori Method **93**

5.4 Findings on how Teachers' Implement the Montessori Method **98**

5.5 Findings on Psycho-Social Factors that Influence Teachers to Modify the Montessori Method **108**

5.5.1 Findings on Psychological Factors Influencing Teachers to Modify the Montessori Method 109

5.5.2 Findings on Social Factors influencing Teachers to Modify the Montessori Method 113

5.6 Conclusion **117**

CHAPTER SIX: SUMMARY AND DISCUSSION OF RESULTS ***119***

6.1 Introduction **119**

6.2 Discussion of Findings **119**

6.2.1 Teachers' Understanding of the Montessori Method 119

6.2.2 Teachers' Understanding of their Role in the Montessori Method 123

6.2.3 How Teachers' Implement the Montessori Method 125

6.2.4 Psycho-Social Factors Influencing Teachers to Modify the Montessori Method 129

6.3 Conclusion **135**

References ***139***

Appendices ***159***

..... ***160***

LIST OF FIGURES

Figure 1.1 SAMA's member and non-member school in South Africa 7

Figure 2. 1 Graphic representation of the four stages of development.....19

Figure 2. 2 Graphic Representation of the Montessori Triad 22

Figure 4.1 Thematic map outlining the preliminary themes 79

Figure 4. 2 Thematic map outlining the final themes.....80

LIST OF TABLES

Table 4. 1 Demographic Information of Participants 73
Table 4. 2 Braun and Clarke's (2006, p. 87) guide for thematic analysis.....77

GLOSSARY

AMI	Association Montessori Internationale
DoE	Department of Education
DBE	Department of Basic Education
ECE	Early Childhood Education
ECD	Early Childhood Development
ECCE	Early Childhood Care and Education
EWP5	Educational White Paper 5
ITBS	Iowa Test of Basic Skills
MACTE	Montessori Accreditation Council for Teachers
MSA	Montessori School Association
MCSA	Montessori Centre South Africa
MANOVA	Multivariate Analysis of Variance
MANCOVA	Multivariate Analysis of Covariance
NAMC	North American Montessori Centre
NQF	National Qualification Framework
POPIA	Protection of Personal Information Act
STATS SA	Statistics South Africa
SAMA	South African Montessori Association
TUC	Transvaal University College
ZPD	Zone of Proximal Development

APPENDICES

Appendix A - Semi- Structured Interview 159
Appendix B - Teachers Biographical Questions 161
Appendix C - Teacher's 6 Interview Extract (Preliminary Codes) 162
Appendix D - Classroom Observation Extract (Preliminary Codes) 163
Appendix E - List of Non-Montessori Materials in the Classroom.....164
Appendix F - Table with Final Codes, Preliminary Themes and Final Themes 165
Appendix G - Principal Permission Letter 166
Appendix H - Participant Information Sheet 169
Appendix I - Consent Form for Participants.....172
Appendix J - Ethics Approval.....173
Appendix K - Language Editing Certificate.....174

CHAPTER ONE: INTRODUCTION AND BACKGROUND

If education is always to be conceived along the same antiquated lines of a mere transmission of knowledge, there is little to be hoped from it in the bettering of man's future.

Maria Montessori

1.1 Introduction and Background to the Study

Early childhood education (ECE) is the foundation of holistic human development. Effective early childhood education is the basis for later success in life (Essa & Burnham, 2019). Research has shown that children who attend good quality early childhood educational programmes achieve significant success during their later educational years (see for e.g., Tobin, 2005; Johnson, Sevimli, Mansour, Tuncdemir & Dong, 2019; Essa & Burnham, 2019).

There is a widespread concern in South Africa, regarding the nature and quality of the Early Childhood Education provision to children from birth to the age of nine years. After the political transformation in 1994, the South African government embarked on a quest to ensure Early Childhood Development (ECD) programmes for all children in South Africa regardless of race, religion, or socio-economic background (Nel, 2019; Modise, 2019). The Department of Education (DoE) was given the responsibility of providing education to six-to-nine-year-old learners, while the Department of Social Development and the Department of Health were assigned to provide education for children from birth to five years (DoE, 2001a).

Therefore, the government recognised the importance of early childhood care and education (ECCE) programmes as foundational for children's successful and optimal development and learning (Nel, 2019). This aspiration is contained in documents such as the Education White Paper 5 (DoE, 2001b) with focus on protecting the children's rights from birth to nine years - to develop in all areas, namely, emotionally, socially, intellectually and physically (DoE, 2001c). By focusing on the investment in, and provision of, early childhood education it was

believed that this will benefit not only the children, but South Africa as a whole. Consequently, according to the Statistics Department (STATS SA, 2019), Early Childhood Developmental (ECD) programmes were established at nursery schools, day care centres, creches as well as in pre-primary schools. The statistics further revealed that from 2019 the attendance at ECE institutions stood 36,8 % ECE, with the highest attendance in Western Cape at 46,9% followed by Gauteng with attendance at 46.8 % (STATS SA, 2019). Despite these high attendance rates in these provinces, it was still worrying that most eligible young children do not attend any form of ECE.

In their policy document, the Department of Education (2001c), identified the provision of three main programmes for the ECD sector. These programmes emphasised numeracy, literacy and life skills, and the following principles were outlined as a framework for the ECD programmes:

i. the inclusion of knowledge, skills, processes, values and attitudes that are appropriate to the current context of social, political and economic conditions,
ii. the drawing on of multicultural experiences and strengths of all the various communities of South Africa,
iii. the adoption of a more learner-centred approach in the early learning years,
iv. and the development of a pedagogy based on an interactive approach to learning and aimed at encouraging children's curiosity, developing confidence in using basic linguistic and cognitive skills and achieving fundamental literacy and numeracy (DoE 2001c, p. 17).

The educational programmes, based on these principles, provide children from infancy to the age of nine years with a range of services; reflecting specific practices and goals; philosophy; and, methods of instruction (Nel, 2019). According to Modise (2019), most of the ECD programmes in South Africa incorporate two or three of the abovementioned principles and often adopt either adult-centred or child-centred activities which are based on a broad range of educational philosophies and curricula. In addition, there are a variety of ECD programmes present in South Africa and these are spread across the public and private educational sector.

The ECD programmes in the public sector follow a more conventional approach to education, while the approach in the private sector varies from child-centred to teacher-directed programmes. By contrast to the traditional ECD programmes which are based predominantly on behaviourist theories of learning, a significant number of the child-centred programmes found in the private sector tend to be based (either loosely or explicitly) on Maria Montessori's theory of child development and the Montessori Method. Despite its widespread adoption in the private sector, research on the way the Montessori philosophy and Method is implemented in these schools in South Africa is extremely limited and there is a desperate need to investigate the ways in which Montessori's recommended practices such as learner-centred and learner-initiated learning, the use of mixed-age groups, and the use of the Montessori curriculum (see Cohen, 2016) is implemented in these schools.

Consequently, the Montessori approach to ECD and ECE will be discussed in the forthcoming chapters in more detail, since the pivotal aim of this study is to examine the Montessori Method as understood, implemented, and practiced by teachers in the South African context.

As mentioned in the introductory section, the importance of education has been recognized by the South African government for decades now. In the attempt to improve and enhance academic performance and competence among learners, different programmes were developed and implemented in both public and private early childhood educational sectors in South Africa (DBE, 2008, 2011a, 2011b; DoE, 2011c). However, despite the state's attempts to provide quality education through diverse educational programmes, problems continue to plague education in South Africa. International research conducted in 2016, in fifty participating countries, showed that South African grade 6 learners had the lowest literacy levels of learners compared to other countries in the study (Spaull & Pretorius, 2019; Spaull, Pretorius & Mohohlwane 2020). The research further indicated that, 78% of the South African learners showed the lowest performance in reading and comprehension, thus highlighting the issue that most learners in South Africa are not reading at grade appropriate levels (Pretorius & Klapwijk, 2016; Sibanda, 2017; Spaull, Pretorius & Mohohlwane, 2020; Reed, Dixon, Biesman-Simons & Pretorius, 2020). These issues are just a few of the myriad of problems pertaining to the educational system in South Africa. Bruwer, Hartell and Steyn

(2014), Van der Gaag and Putcha (2015) and Biersteker, Dawes, Hendricks and Tredoux (2016) argue, that these issues are mainly due to the implementation of inadequate early childhood, preschool programmes and practices.

Early childhood development (ECD) is defined by the South African Department of Education (DOE, 2001b, p. 9) as "the processes by which children from birth to nine years of age grow and thrive physically, mentally, emotionally, morally and socially," namely the ECD is foundational for successful learning in later years. Biersteker and Dawes (2010) state that the quality of ECD programmes and practices are integral part of the foundation for the holistic development of the child. Such programmes and practices, prepare children for adolescence and lifelong learning, while providing fundamental opportunities for intellectual, social, emotional and physical development. Therefore, the provision of adequate Early Childhood Development (ECD) programmes is imperative, where the children's optimal development will be promoted, thus resulting in better school performance, lower dropout rates and repetition, and minimized remedial interventions later in life (DoE, 2001b; Atmore & Cooper, 2012).

The conventional system of education in South Africa may be one of the significant problems for learners' low performance and poor educational outcomes in the schooling system. More specifically, the conventional educational system is based on programmes and practices that use teacher-centred approaches to education (Kemp, 2013). Such programmes primarily focus on direct instruction and transmission of knowledge, where the teacher holds the dominant position and controls the learners' learning process (Polly, Margerison & Piel, 2014; Lake, 2016). The teacher-centred approach in South Africa, relies primarily on "rote-teaching methods, where learners passively receive information without the chance to critically engage or actively explore the information provided" (Lake, 2016, p. 19). This approach is based on a results-driven approach, where quantity is more important than quality. In broad terms the teacher-centred approach to education places an emphasis primarily on educational outcomes, while the overall development (emotional, social, physical, and intellectual) is treated as secondary or less important.

In contrast to the teacher-centred approach is the child-centred approach to education. Since the early 1990's, there has been an ongoing debate between researchers whether an instructional, teacher-centred approach or child-centred approach with self-directed learning best suits the child's development and school performance. Various researchers have engaged in this debate (Marcon, 1992; 1999; Burts et al.,1992; Stipek et al., 1995; Golbeck, 2001). These researchers showed that educational models based on a child-centred environment that encompasses self-directed learning, are best suited as an educational approach for children's optimal development. Similar findings from more contemporary research (e.g., Lake, 2016; Onurkan & Ozer, 2017; Kaymakamoglu, 2018; Outlaw et al., 2018) also attest to the benefits of a child-centred education, where children are intrinsically motivated to construct meaning and encouraged to become self-motivated and independent learners, thus resulting in active knowledge construction.

One such child-centred approach is the Montessori Method of education, which may be proposed as an alternative early childhood educational system in South Africa. Montessori education differs from traditional education in its understanding of children's development, the aims of education, the roles of the teacher and the child, and how learning takes place.

The Montessori approach encompasses a synthesis of both a child-centred approach and incorporates teacher guidance while following a curriculum with academically orientated components (Faryadi, 2009; Lillard & McHugh, 2019). The Montessori system is directed at the totality of the child's development and school performance by comparison with the conventional schooling systems which are based on competition and academic achievement (Daoust, 1994; Lillard, 2013). Lillard and Else Quest (2006), Faryadi, (2009), Lillard (2012a) and Shivakumara et al. (2016) investigated this child-centred approach to education by comparing Montessori learners with learners from conventional programmes. Findings from these studies point to better academic and social preparedness and competence for Montessori students when compared to learners with a traditional educational background. As such, the Montessori Method of education shows great promise. However, not all studies point to better academic preparedness and competence for Montessori learners when compared to other educational approaches.

In some instances, when the Montessori model is compared to traditional educational approaches, findings are of a conflicting nature (Mallet & Schroeder, 2015; Brown, 2016). Mallet and Schroeder (2015) evaluated math and reading academic outcomes by comparing learners from Montessori schools and learners who were taught according to the traditional educational approach to early childhood education. The Iowa Test of Basic Skills (ITBS) was administered to evaluate the learners' basic math and reading skills. The results of the test were in favour of the non-Montessori students with higher ITBS math and reading scores. Brown (2016), similarly, examined math and reading instruction for grade three students comparing Montessori learners with others from traditional schools. Brown (2016) used MANOVA and MANCOVA procedures to compare the learners' reading and maths scores. In this study, Montessori learners were found to outperform the learners from the traditional school in terms of reading, while no significant difference was found in math scores. These inconsistent findings could be a function of the nature and quality of the Montessori philosophy and method as adopted in classroom practice by teachers. While Mallet and Schroeder (2015) randomly selected Montessori schools for participation in their study, Brown's (2016) study concentrated predominantly on learners coming from programmes with a high fidelity to the Montessori Method. Such programmes include teachers trained in the Montessori Method, implementation of authentic Montessori practices such as the three-hour work period, multi-aged classroom groups, and individual work presentations. According to Daoust (2004), Montessori programmes where teachers adhere closely to traditional Montessori practices, exhibit greater gains than the modified Montessori programmes. Consequently, a strict adherence to the implementation of the Montessori programme is important for the viability of this Method, and as such the issue of the extent to which such compliance is adhered to is an issue of positive concern.

The latter studies point to abiding problems with the Montessori approach, both on a local and international level. The largest South African Montessori Association (SAMA) has established standards that are compatible with authentic Montessori principles and practices which include certified Montessori teachers, mixed-aged classrooms, prolonged work periods, and individualised lesson presentations. SAMA's recent statistics as indicated in

figure 1.1, show that of the 1000 (known) Montessori schools in South Africa only 512 schools are affiliated with SAMA (Irmgard Pringle, SAMA operational manager, personal communication, 2021).

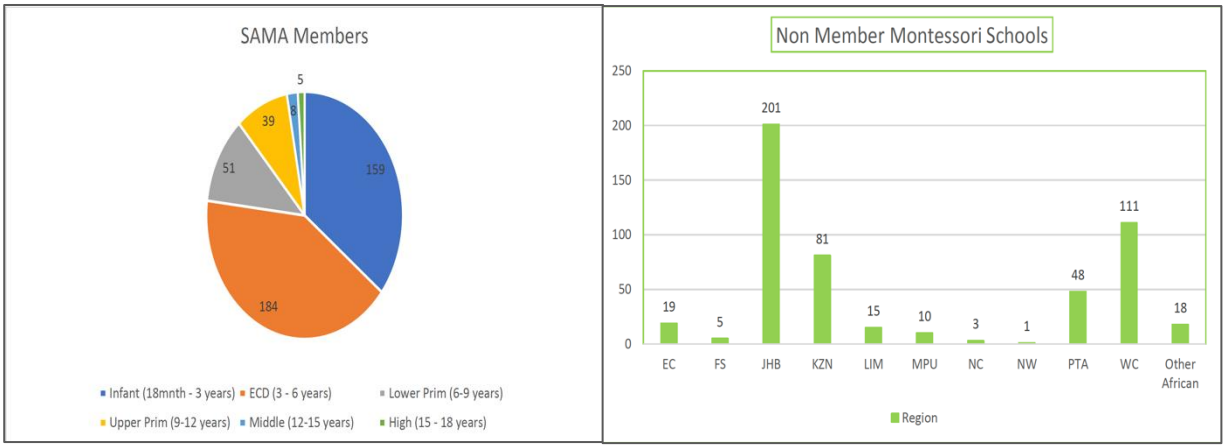


Figure 1.1 SAMA's member and non-member school in South Africa

These statistics highlight the problem that not all Montessori schools follow the authentic Montessori directives, and this in turn leads towards variability in the implementation of the Method. With such method variations, assessing the viability of this Method becomes problematic. Therefore, an important first step towards clarification of what constitutes Montessori education in South Africa is through a systematic examination of how teachers understand and implement the Montessori principles in practice. Such an examination - which should also include a consideration of the factors that influence teachers to modify the Method in South African Montessori classrooms – will help to establish a more detailed picture of how Montessori education functions in the South African context and will provide us with an awareness, and understanding, of the implementation and adoption of this alternative approach to the conventional early childhood education in South Africa.

1.3 Problem Statement

The Montessori Method of education is accepted worldwide and appears to have notable benefits. However, there are numerous inconsistencies found in the writings related to the description of this Method and how it is related to classroom practice. To this end, it is important to establish the degree of authenticity of the current Montessori practices as implemented and adopted by Montessori teachers in South Africa.

Sharon Caldwell (2018) a prominent Montessorian, argues that a great number of Montessori schools in South Africa incorporate materials and practices noncongruent with the traditional Montessori Method. Caldwell (2018) further asserts that "a number of schools attempt to implement a more classic approach … while a number of South African Montessori programmes support adaptations of their curricula to comply with the requirements of the National Qualification Framework (NQF)" (p. 13). Such adaptations lead to the modification of the classroom practices, ultimately changing the authenticity of the Montessori Method. The demands to meet the state's NQF demands on the one hand, and to comply with the Montessori principles and practices on the other hand, affects the implementation of an authentic Montessori programme because teachers' compliance with the statutory demands leads to incongruencies with the practices described by Maria Montessori. The South African Montessori Association (SAMA) has raised similar concerns. Even though SAMA strives to standardize the implementation of the traditional Montessori Method across the Montessori schools, very few schools are subjected to a process of accreditation (Abu, 2012; Caldwell, 2018). This, lack of accreditation results in a concern regarding the authenticity of the programmes offered at the schools which claim to be Montessori schools. It may be questioned in many cases, whether these schools and the teachers in these schools follow the authentic Montessori philosophy and directives or adopt and implement practices noncongruent with the Montessori Method.

Maria Montessori strived to keep her Method of education authentic and in pure form, however recent research in South Africa shows a variation in practice among teachers. Ubisse (2019) evaluated the Montessori Method in one Montessori pre-school in Cape Town. The

findings from this study point to variation in Method implementation and adherence to the classical Montessori Method. In terms of supporting the child-centred classroom practice to promote the learners' freedom of choice, this study found that the children's freedom of choice to engage with the materials was generally absent. Such freedom of choice as a practice is a crucial aspect for the implementation of the traditional Montessori Method (Isaacs, 2018). When learners can freely engage with materials of their choice, their self-esteem, sense of independence and self-confidence develops, and this promotes the learners' achievement levels (Marshall, 2017; Lillard & McHugh, 2019).

It is difficult to draw a conclusion on the adoption and use of the Montessori Method in South Africa from this single empirical study conducted to date. Furthermore, the school where the research was conducted was still in the process of implementing the Method. That is, the learning environment was not fully equipped with Montessori materials, the classes lacked the three-year age span grouping, there was a lack of freedom on the part of the learners to engage with the Montessori materials, and, quite importantly, not all teachers employed in the school were Montessori certified and trained. In addition, Ubisse (2019) looked at the efficacy of the Method by examining the learners' academic and social achievements and did not focus adequately on whether authentic practices are implemented and adopted by the teachers. His study was further limited by a small and homogenous sample size and the data obtained was exclusively quantitative in nature. Thus, it lacked qualitative information which could have been gathered through classroom observations and interviews with teachers that could have provided him with more detailed and in-depth findings about the authenticity of the Method adopted by the teachers in his study. As Murray, Daoust and Chen (2019, p. 50) state, "researchers use a variety of tools to measure the fidelity of Montessori environments they study, but most of these tools lack an extensive psychometric foundation, requiring in-person observations." Consequently, this study intends to fill this gap in the available research by employing research tools such as interviews and observations with a larger sample size of Montessori schools and teachers. In this way it intends to generate more in-depth findings regarding the use of the Montessori Method by teachers who work in Montessori schools in the South African context.

Considering the paucity of research on Montessori education in South African context, the prevalence of Montessori schools, the nature of their practices, the accreditation of their teachers, and the curriculum that they follow, there is a great need for more extensive, systematic research and analysis to establish the implementation of the Method in a larger number of Montessori schools and with a larger sample of Montessori teachers. Such research will allow us to reflect more carefully at the extent to which these schools and the teachers in such schools adopt and use Montessori's theoretical ideas and practices. Examining the teachers' understanding and implementation of the Method and their role in the Method will provide us with knowledge that may improve existing Montessori practices and may serve as a guide for the future betterment and even investment in the development of the Montessori programmes in South Africa. Consequently, this study attempts to provide a more detailed picture of the present state of the Montessori Method in the South African context. Specifically, it will attempt to establish whether teachers understand and implement the authentic Montessori Method in their practice and the extent to which they may be influenced by socio-psychological factors to modify the Method.

1.4 Rationale of the Study

The Montessori Method of education can be seen as an alternative to traditional schooling. Maria Montessori based her Method on the fundamental belief that children best develop and learn in a social environment conditioned with love and respect, in other words, a true, child-centred environment where children are encouraged to exercise their freedom (Lillard & McHugh, 2019). In her words, "the children in the Montessori classrooms are equipped in their whole being for the adventure of life, accustomed to the free exercise of will and judgment, illuminated by imagination and enthusiasm" (Montessori, 1967, p. 1). Most Montessorians are knowledgeable of the fact that Montessori children exercise freedom of choice in the classroom to engage with the materials. Kayili (2018) states that the child's free will develops the ability to make conscious judgments and control their behaviour exhibiting higher executive functioning. Notwithstanding the seemingly associated benefits that children acquire when exposed to a Method that is implemented in its traditional form, teachers often tend to modify the Method (Daoust, 2004; Wells, 2014; Lillard & Mc Hugh,

2019). The Montessori teachers are a vital part and have a pivotal role in the implementation of the Montessori Method in their classrooms (Lillard, 2016). Teachers' understanding, perceptions and attitude about the Montessori philosophy and authentic principles and practices are crucial in determining the fidelity of the implementation of the Method, as well as the learners' overall development. Wells (2014) asserts that the teachers use of modified practices incongruent with the authentic directives of the Montessori Method impedes the learners' optimal development and motivation for learning.

These issues as posed in the literature, were also observed and recognized by this researcher. The experience I had while training and later working as a Montessori trained teacher in the Montessori field for three years, lead me to an acknowledgement that what is traditionally described as the Montessori Method and approach in writing is often inconsistently found and practised by teachers in several purportedly Montessori classrooms. I have noticed that the implementation and interpretation of the Montessori model differ significantly. Particularly in South Africa, no legal specifications are provided to regulate what constitutes an authentic Montessori education. To this end, any school in South Africa can claim the term Montessori without adhering to the authentic practices of the Montessori Method. Similarly, I have noticed that the inconsistent practice of the Montessori Method by teachers in South African classrooms often results in adverse educational outcomes for Montessori learners.

The differences in the Montessori practices implemented by teachers have not been researched to date in South Africa. There is limited to non-existent research on Montessori programmes and the type of practices teachers adopt in their classrooms, both in national and international domain, is unknown (see Daoust, 2004; Abu, 2012; Abdulai, 2018; Starling, 2018; Ubisse, 2019). In view of the limited research devoted to Montessori education especially in the South African context (see Jamieson, 2005; Akabor, 2015; Ubisse, 2019), this study hopes to contribute to an understanding of the Montessori Method as implemented and practised by teachers in a selected number of Montessori schools in Gauteng, South Africa. By researching the differences in the Montessori practices as implemented by teachers, as well as the factors contributing to these differences, this study will attempt to provide a relatively comprehensive and coherent view of the Montessori Method as currently

understood and practised in South Africa. This, in turn, will enrich the sparse body of literature on Montessori education in the South African context. Ultimately, through systematic investigation of the teachers' practices in the Montessori classrooms this study intends to fill in the research gap found in the literature in both South African context and internationally with regards to how teachers understand and implement the Montessori Method.

1.5 Research Objectives of the Study

This research study intends to explore teachers' understanding of the Montessori Method in selected Montessori schools in Gauteng, South Africa. To this end, this research has the following research objectives:

- to examine the teachers' understanding of the Montessori Method in the Montessori schools;
- to examine the teachers' understanding of their role in the Montessori Method in the Montessori schools;
- to determine how Montessori teachers implement the Montessori Method in classrooms in Gauteng, South Africa; and,
- to determine the psycho-social factors that influence teachers to modify the Montessori Method in the South African Montessori classrooms.

1.6 Research Question/s

The foundational research question guiding this research is:

How is the Montessori Method understood, adopted and implemented by Montessori teachers in some South African Montessori schools?

1.6.1 Sub-questions

1. What are the teachers' understanding of the principles of the Montessori Method and practices in South African Montessori schools?
2. What are the teachers' understanding of their role in the Montessori Method in South African Montessori classrooms?
3. How do Montessori teachers implement the Montessori Method in South African Montessori classrooms?
4. What psycho-social factors influence teachers to modify the Montessori Method in South African Montessori classrooms?

1.7 Theoretical Framework

For the purposes of this study, it was necessary to differentiate between Montessori's theory of child development which establishes the basic theoretical and psychological principles behind the Montessori Method and its related practices, from an explanatory framework which helps the researcher to explain how teachers interpret, understand, and implement Montessori's ideas into their practice. To the latter end, the theories of Vygotsky and Piaget are presented to explain how the teachers construct their understanding of Montessori's ideas and the practices of the Montessori Method.

Maria Montessori's theory of development, in particular the concepts of teacher's support, as well as the sensitive periods in the learners' development, forms a framework to analyse the teachers' implementation of the Method. However, to explain the teachers' construction of their understanding of Montessori, it was necessary to develop a different explanatory framework. To this end the theories of Vygotsky and Piaget are presented and their insights about the construction of knowledge are co-ordinated to provide a more complete framework to be used to explain the teacher's understanding of their role in the Montessori classroom, their use (or not) of the Montessori materials, the adoption of a three-year age span in their classrooms, and so on.

1.8 Research Design and Methods

This study was developed within the interpretative paradigm and followed a qualitative research method. This qualitative study used a multiple case design to examine the teachers understanding and implementation of the Montessori Method in selected Montessori schools in the Gauteng region. Two to three participants out of fourteen in total from each of the six schools, were purposefully chosen according to criteria that the participants (a) had to be pre-primary teachers in a Montessori school, and (b) taught learners in mixed age classrooms (3-6 yr.). To provide a description and accuracy of the practices that teachers employ, data was collected via non-participant observations supplemented with individualised interviews and the analysis of documents provided by the selected schools. The data collected was analysed through thematic analysis. Two levels of data analysis were conducted, within case and cross case analysis. The collected data was reduced, and clear themes and patterns were extracted, to answer the study's questions. The research design and method employed for this study is elaborated in greater detail in Chapter Four.

1.9 Definition of Key Terms

The following key terms are related to, and form an integral part of this study, and as such it is necessary to clarify their use in this study:

Montessori Method: An approach consisting of a philosophy and educational Method based on the optimal development of the child (Wentworth & Wentworth, 2013). The Method has been developed to suit the child's needs and tendencies to learn in a specifically prepared environment (Lillard, 2013). In the present study, the Method entails a child centred Method, where the child's learning takes place through interactions in the prepared environment, guided by a psychologically prepared teacher.

Montessori Classroom: An educational setting that operates on the principles that Maria Montessori suggested in her writings. These include the use of materials,

curriculum areas, philosophy, and theory of the Montessori education (Marshall, 2017). In the present study, the Montessori classroom had to contain adhere to six principles, namely, a complete set of authentic Montessori materials, structure and order, beauty, nature and reality, freedom, intellectual and social environment.

Montessori Teacher: Individual trained and educated in the Montessori philosophy, theory and curriculum developed and founded by Maria Montessori (Christensen, 2016;2018). In the present study, the Montessori teacher is the observer of the child's inner natural unfolding; by preparing a stimulating environment the teacher guides and encourages the freedom of choice while facilitating the child's independence, intrinsic motivation, movement, and curiosity, without interruptions.

Authentic Montessori programme: An educational setting authentically adhering to the traditional Montessori practices and principles (Lillard, 2016). In the present study, an authentic Montessori programme encompasses and is committed to multi-aged classrooms, child-directed work, trained teachers, uninterrupted work periods and the use of authentic Montessori materials.

1.10 Outline of Chapters

Chapter One: Introduction and Background of the Study

The first and introductory, chapter provides the reader with an introduction and background to the study, outlining the problem within which this research study is positioned. After the problem statement, the rationale of the study Is provided, highlighting the reasons why this study is needed and its contribution to the relevant field. Thereafter, the study's research aims and objectives are provided followed by the research questions that this study intends to address. Followed by sections outlining the theoretical framework and research design and methods used for this study. Last, a definition of the key terms used in the study are provided, to avoid misunderstanding regarding the use of these terms in this study.

Chapter Two: Literature Review

The literature review chapter begins with a brief overview of Montessori's Theory of Development and the Montessori Method. This is followed by a detailed review of the literature of the Montessori Method internationally, and in South Africa. This is followed by a review of the literature on teachers' understanding of the Method and their role in the modification (if any) of the Method. Lastly, the chapter concludes with a review of the psycho-social factors which may affect the implementation of the Method.

Chapter Three: Theoretical Framework

To explain how the teachers' construct their understanding of Montessori's thinking and the practices which they implement, a theoretical framework is proposed in this chapter which co-ordinates the insights of Vygotsky and Piaget.

Chapter Four: Research Design and Methods

This chapter discusses the methods and design chosen for this study. It provides a justification for the use of an interpretative paradigm, qualitative methods, multiple case design and the criteria for research sampling. Data collection methods and analysis techniques are discussed, and the trustworthiness of qualitative data is provided. Thereafter, the chapter concludes with a discussion on the ethical considerations which were adhered to in the collection and presentation of the data.

Chapter Five: Data Presentation and Findings

This chapter presents the findings emanating from the data collection. The thematically analysed data from the observations, interviews and reviews of documents is presented and interpreted.

Chapter Six: Summary and Discussion of Findings

The last chapter presents the summary and discussion of findings linked to the literature reviewed and the three theories framing this research study. Last, this study concludes with study's limitations, recommendations and suggestions for further research and for practice.

1.11 Conclusion

This chapter commenced with an introduction and background to the study. The problem statement and rationale were then presented, followed by the study's research objectives, research questions, sections explaining the theoretical framework, and research design and methods. Definition of terms was then presented, and this was followed by an outline of chapters section. In the following chapter literature pertinent to the Montessori Method will be reviewed.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This literature review chapter commences with a brief overview of Montessori's theory of development and the Montessori Method. Based on this overview, the remainder of the chapter is devoted to a review of the published research on Montessori Education across the Globe; On the Understanding of the Montessori Method; Understanding the Authentic Practices associated with the Montessori Method which includes the Montessori Materials, the Uninterrupted Three-Hour Work Cycle, Freedom of Choice, Mixed-Age Groups, Work Presentation Format; Teachers' Understanding of the Montessori Method; How Teachers Implement the Montessori Method; Teacher's Understanding of their Role in the Montessori Method, and the Psycho-Social Factors Pertinent to Method Modification.

2.2 Overview of Montessori's Theory of Development

Montessori's Method of education is underpinned by her theory of development. In other words, the foundation of the Montessori Method is Maria Montessori's theory of four planes of development. Maria Montessori conceptualised the child's development in terms of planes or stages of development and the sensitivities for learning which manifest in each stage. Montessori (1996) viewed the sensitive periods as a central guide for classroom practice. The first stage of development starts at birth and finishes at 6 years; the second stage spans the period 6-12 years; the third stage ranges from 12 to 18 years; and the fourth stage extends from 18 to 24 years. Even though Montessori's theory of development can be perceived as a framework for development, yet it is of great importance as it represents her overall overview of the individuals' development per planes from before birth to adulthood. It is of necessity for Montessori teachers to have deep understanding of the specific developmental plane that they teach, as this understanding will guide the Montessori teacher to effectively enact the theory in classroom practice.

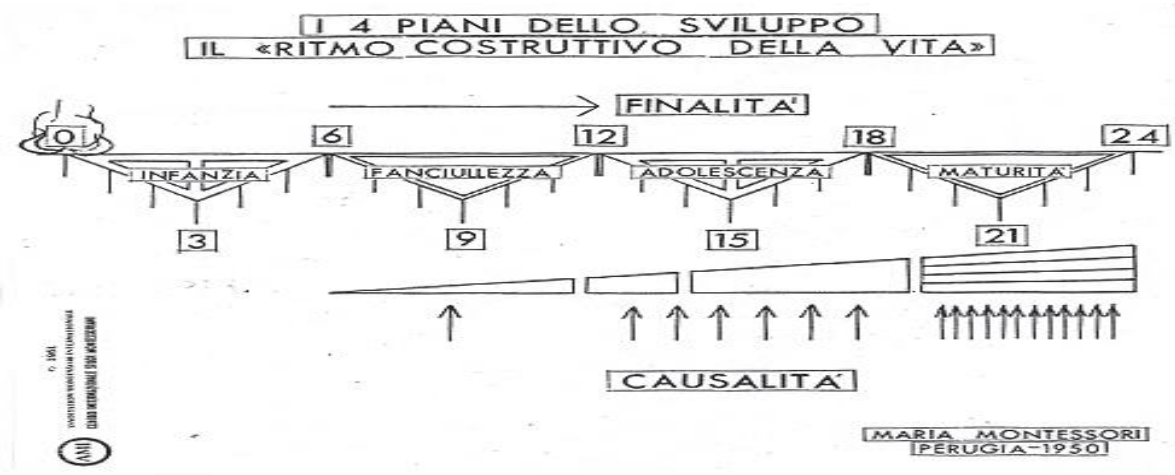


Figure 2. 1 Graphic representation of the four stages of development

For this study the emphasis is on the first stage of development, from birth to 6 years which Montessori discussed in detail in her book the Absorbent Mind (1967). In the Absorbent Mind, she described how various sensitivities emerge during the child's first developmental plane. Montessori (in Isaacs, 2018) conceptualised these as 'sensitive periods' and they include sensitive periods for movement; order; attention to detail; language sensitivity, and sensitivity to the social aspects of the world. The sensitivities have vital role in each developmental plane (see fig. 2.1). The sensitivities change from one phase to another, where each sensitivity has a starting point, then its intensity increases until it reaches its maximum, before it declines.

When one sensitivity declines another one manifest and follows the same process as the previous sensitivity (Grazzini, 2004). And it is these sensitivities that guide the individual's development through the different planes or stages. According to Isaacs (2018) the sensitive periods manifest themselves "in a pattern of [repetitive] behaviour" (p.20). Montessori's (1996) assertion is that these periods not only aid the child's mental development but are also a crucial aspect for learning. Thus, the sensitive periods are 'markers' which should guide teachers appropriately to follow children's development and learning, and to accommodate their classroom practice according to the children's sensitivities.

When a sensitive period emerges, through observation a teacher should detect this period for learning and support and guide the child's learning by presenting adequate developmental activity from the five curricular areas in the environment (Montessori, 1966; 1967). If support and guidance is not offered to the child and the sensitivity passes, the momentum in the child's development according to Montessori (1966), will be missed. In addition, the role of the teacher according to Montessori (1966) is to detect the sensitivities through observation, and to provide an environment for the child's optimal achievement. Overall, once the child's sensitivity is detected by the teacher, the teacher's role is to guide the child's construction of knowledge through individualised lesson presentation, where the child can individually expand their concentration levels which can lead towards self-regulation and ultimately independence. As stated by Montessori (1964; 1965; 1966; 2013) teachers should allow freedom of choice to move within the environment, freedom to choose Montessori materials, freedom to cooperate with their teachers and peers in a multi-aged environment for uninterrupted period of three hours. In broad terms, the discussion in this section identifies the five practices (freedom of choice; Montessori materials; uninterrupted work cycle; individual presentations; multi-aged 3 to 6 groups) emanating from Maria Montessori's theory of development and the associated sensitivities that emerge during the developmental planes.

This whole educational approach or Method is based on Maria Montessori's theory of development and sensitive periods. In other words, the theory, the method's related practices and the role of the teacher are intertwined, where the theory is the foundation for the implementation of the methods related practices and the role of the teacher in this approach.

Overview of the Montessori Method

Montessori education was developed more than 100 years ago by the first female psychiatrist in Italy, Dr Maria Montessori. Maria Montessori developed an educational method which stood the test of time and after a hundred years consist of more than 20 000 schools in more than 120 countries worldwide (Cohen, 2016; Isaacs, 2019). Maria Montessori's work started with mentally disabled children from the psychiatric hospital in which she worked in Rome and continued later with normal students from poor socio-economic backgrounds (Lillard, 2016). The Method she developed has been implemented in educating all children, which resulted with positive advancements, constituting the foundation for further development into becoming a widespread Method, and a valuable contribution to the field of alternative education (Lillard, 2016; 2019; Aljabreen, 2017). The Montessori education encompasses pedagogy, curriculum and philosophy and is focused on human development from birth to adulthood. Even though most of the Montessori schools serve children from preschool years up to the age of six years, recently an exceptional growth has been noticed in elementary Montessori programmes (Lillard & McHugh, 2019).

It is important to stress that "Montessori education" does not signify any franchise or rights attached to specific teaching materials or devices (Marshall, 2017). Instead, the term Montessori represents a type of child-centred education based on a set of principles which are associated with, and reflecting, the philosophy drawn from the work of Maria Montessori (Wentworth & Wentworth, 2013). Based on scientific observations of children, this child centred education sees its core components as multi age groups, guided choice of work, and uninterrupted three-hour blocks of work time (Lillard, 2019; Isaacs, 2019). Additionally, children are presented with specially designed lessons, with hands on materials that are carefully arranged in an aesthetically pleasing environment (Seldin & Epstein, 2003; Marshall, 2017). In this educational approach, children's academic outcomes are not measured by grades and no extrinsic rewards are offered. Instead, children are encouraged to probe their personal interests through interactions with peers and teachers.

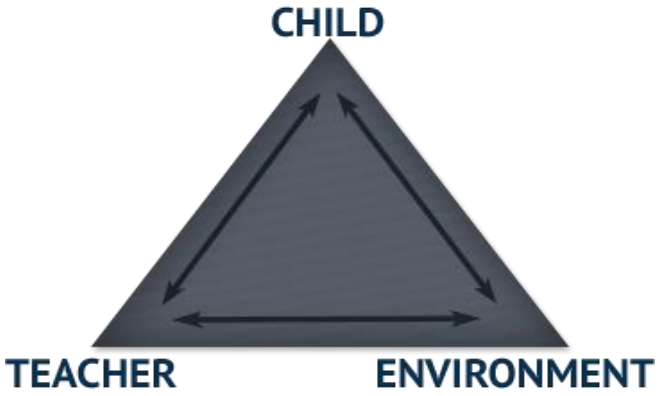


Figure 2. 2 Graphic Representation of the Montessori Triad

Montessori education represents a dynamic triad – the learner, the teacher, and the prepared environment, i.e., the classroom (see fig. 2.2). The child/learner is central in this educational method followed by the teacher and the prepared environment. In other words, the learner in this Method is seen as the centre of the educational domain, developing on different levels, aided by the specially prepared environment which include vertical groupings, didactic materials through continuous guidance, and respect from the teacher (Mallet & Schroeder, 2015; Lillard, 2016; Marshall, 2017). The Montessori environment is designed to meet the needs of the learners' optimal development. With hands-on materials and activities throughout the six areas, the environment impels and challenges the child's development (Smith, 1912; Christensen, 2016; Salassa, 2018). The materials are crafted to acknowledge and respect the child's developmental needs by means of visual, tactile, auditory, and the kinaesthetic education of the children's senses. Furthermore, the environment provides the child with freedom of choice; for the child to learn on their own pace, to be able to evaluate their knowledge and to accommodate new experiences with what they have learned before. In other words, with an emphasis on structures and ordered materials, arranged to suit the learner's interest and the level of difficulty, the prepared environment facilitates the child's liberty (Lillard, 2012b; 2016; Marshall, 2017; Isaacs, 2019). In broad terms, when learners are free to move within their learning environment, they discover, explore and construct new knowledge consonant with their sensitive periods of development, as represented through the child's developmental stages.

Another essential component of the Montessori triad is the Montessori teacher. Without the teacher in the Method the dynamism of this educational approach would not be viable (Cohen, 2016). The Montessori teacher is seen as the guardian of the environment and facilitator of the child's learning and development (Christensen, 2018). The teacher often regarded as 'The Directress' does not occupy an authoritarian, didactic role but rather assumes a guiding role with respect to the whole spiritual unfolding and developmental periods of the child in the specially prepared environment (Krause, 2015; Cohen, 2016). Ultimately, by adopting the role of an observer while the child uninterruptedly builds knowledge, the teacher observes the spontaneous learning and provides the learners with an aesthetically pleasing work through guidance to encourage the development of knowledge through the senses. In addition, the attributes each Montessori teacher possesses stem from their sound knowledge and understanding of the Montessori philosophy and theory.

The Montessori Method of Education is based on Maria Montessori's philosophy of education and her theory of child development (Bunnag, 2000; Cohen, 2016; Aljabreen, 2017). To this end, the Montessori Method of education cannot be fully understood without the comprehension of the philosophy behind it. Since these two dimensions are interwoven, the philosophy is applied within the Method on the foundation and predilections that each child develops naturally. Therefore, the naturalness promotes the child's growth, self-development and self-construction of knowledge. The Montessori philosophy is rooted in Maria Montessori's scientific observations of children (Hiles, 2018). Montessori's philosophy follows the tradition of Pestalozzi, Froebel and Rousseau, who believed in the innate tendencies and potential children have to develop when given conditions of love and freedom (Lillard, 2016). This scientifically constructed philosophy is based on Montessori's belief that children develop wholly if given liberty within specially structured environment (Mallet & Schroeder, 2015; Christensen, 2016; Hiles, 2018). The child possesses inner tendencies which come naturally to the child. These tendencies direct the child to develop optimally, and they include independence, attention, desire for meaningful work, and these ultimately lead the child to self-regulate their behaviour. For Maria Montessori these tendencies were of crucial importance in the child's intellectual, emotional and spiritual development (Lillard, 2016). Conclusively, the Montessori philosophy advocates for an education built around the

children's tendencies which represent themselves in each of the child's developmental stages. These 'natural tendencies' are universal, and only an educational system which respects these tendencies can establish a solid foundation for the learners' future learning and development.

In broad terms, the Montessori Method of education stands out in many respects as a more appropriate and effective approach to early childhood education than the traditional early educational programmes and approaches. A growing body of research bear witness to the feasibility and efficacy of this educational Method (see Lillard, 2012b; Lillard & Heise, 2016; Kayili, 2018; Culclasure, Fleming, Riga & Sprogis, 2018; Fleming, Culclasure & Zhang, 2019; Dereli, Danisman, Demircan & Yaya, 2019). To list a few aspects, Montessori learners are found to exhibit higher creative levels (Fleming et. al, 2019), demonstrate higher cognition and psychomotor development (Kayili, 2018), better social competence and emotional behaviours (Dereli et. al, 2019).

While the benefits gained through the Montessori Method of education are notable, there is a great deal that is yet to be examined on how this Method is implemented and practised in individual Montessori schools in South Africa.

Review of the Research on the Montessori Method

2.3 Montessori Education Across the Globe

At present, the Montessori schools carry the name of the Method's founder Dr Maria Montessori. In 1907, the first Montessori school was opened in the slums of Rome, Italy (Ackreman, 2019). Given a chance to test and prove her theory of child development, Dr Montessori opened 'Casa dei Bambini', translated as 'The Children's House' (Thayer-Bacon, 2012; Ackerman, 2019). Dr Montessori provided children with specially designed materials and child-sized furniture in a one room classroom, where the children had an all day, home away from home experience (Ackerman, 2019). The children's success led Dr Montessori to

endeavour to open more schools and train teachers in her Method - both in Italy and across the world. In 1929, to preserve her philosophy of education, Dr Montessori formed the Association Montessori Internationale (AMI), based in Amsterdam at present (Casey, 2018). AMI strives to preserve the authenticity of the Montessori practices through provision of services such as the training of teacher trainers; teacher training; publishing Montessori related journals and books; and teachers' professional development (Casey, 2018). Consequently, with AMI as a governing Montessori body, numerous Montessori associations were opened throughout the world with the aim to guide and govern the implementation of the traditional/ authentic Montessori Method.

The strength of the Montessori Method is seen in its adaptability to diverse international social contexts. As in the rest of the world, the Montessori Method found its path into South Africa in the early 1910's. An article entitled 'The Montessori Method as applied in the Transvaal' written by a student at the Transvaal University College (TUC)1 in 1917, serves as proof of the foregoing assertion, and provides evidence of the existence of Montessori education in South Africa for more than a hundred years, as noted on SAMA's website (SAMA, 2021) (retrieved from: https://samontessori.org.za/about-us/). Records point to various Montessori schools opening throughout South Africa from as early as the 1910's and 1920's. One of the first Montessori schools was 'The Garden Montessori School', in Wynberg Hill, Cape Town in 1917. Further records show Montessori schools operating in Pietermaritzburg and Johannesburg in the 1920's (SAMA, 2021). With the growing interest in Montessori Education, SAMA (2021) states that many schools emerged in the 1970's, most of which were situated in Johannesburg, Soweto and Cape Town.

The diffusion of the Montessori educational Method received great support from one of the well-known and established families in South Africa, namely the Oppenheimer family. In 1981, the first Montessori Society was founded and supported by organizations such as Liberty Life (SAMA, 2021). The growth of the Montessori Method is also evident in numerous

[1] The Transvaal University College was a publicly funded, multi-campus research university from which both the University of the Witwatersrand and the University of Pretoria emerged.

African countries, not only in South Africa. Today, Montessori schools are found in countries such as Ghana, Malawi, Nigeria, Botswana, Nigeria, Egypt and Namibia.

At present, in South Africa there are more than 1000 Montessori schools. SAMA's latest statistics show 500 SAMA member schools, 175 privately owned schools working towards SAMA membership, and 512 non-member Montessori schools which are either supplementing (or implementing) educational practices using Montessori materials and methods (SAMA, 2021). According to recent SAMA statistics, the greatest number of Montessori schools today are operating in Gauteng and in the Western Cape (SAMA, 2021).

In America, statistics show that the first Montessori school was opened in October 1911 (Ackerman, 2019). From that time to the 1950's Montessori Education was found only in the private sector and from the 1960's onward was implemented in the public educational sector as well (Ackerman, 2019). The most recent, 2018 statistics from the National Centre for Montessori indicate the existence of 518 public Montessori schools and 2089 privately owned Montessori schools across America (AuCoin & Berger, 2021; AMS, 2021) (retrieved from: https://amshq.org/). In England the Montessori society was founded in 1934 with the aim to represent and preserve the Method as proposed by Dr Maria Montessori, per AMI's website (Montessori Society AMI, 2021) (retrieved from: https://www.montessorisociety.org.uk/). To date, the Montessori UK Society works towards uniting the Montessori community, through Montessori books and journal publications, training of teachers, and Montessori conferences. The Montessori Schools Association (MSA) in the United Kingdom, notes on their website (http://www.isyb.community.bloomsbury.com/?id=2586), 700 Montessori schools at present, of which 73 are fully Montessori accredited (MSA, 2021). Similarly, on the Asia Montessori website (a portal for Montessori education in Asia) (retrieved from: https://montessori.asia/) records shows the presence of Montessori schools' in virtually all Asian countries such as Indonesia, Laos, Vietnam, Korea, Japan, Taiwan, India, Philippines, Pakistan and Taiwan (Montessori Asia, 2021).

It is virtually impossible to establish an accurate number of Montessori schools on a global scale. Montessori schools are found in every corner of the world which bears testimony to

the popularity of the Montessori method. The foregoing information is just a snapshot of the distribution of the Montessori Method throughout the world (and in South Africa) but it clearly shows the widescale acceptance and practice of Montessori Education as an educational Method.

2.4 On the Understanding of the Montessori Method

Common issue and concern that arises with the use of the name 'Montessori' is that the name Montessori is not patented and protected by copyright. With no patent rights attached to the name, schools can simply use the Montessori name, while using materials and adopting practices which contradict those proposed by Maria Montessori. The problem arises primarily from the fact that any school in South Africa (and worldwide) can use the Montessori name without being affiliated to a governing Montessori organization which follow the authentic Montessori directives. To this end, a great range of Montessori interpretations of the Montessori philosophy can be found in South Africa as well as around the world, which concomitantly leads to a great variation in the implementation of the Montessori Method.

The label 'Montessori' is thus commonly appropriated to describe a school because there is no control over the use of this label. One major concern arising from this, is the viability of the findings emanating from studies evaluating the Montessori Method of education, since not all schools labelled "Montessori" implement authentic ideas and practices which are congruent with Montessori's ideas and practices. Furthermore, as Murray (2012) and Hiles (2018) note in their research on the public understanding and of the Montessori Method, a great number of participants are aware of the Montessori Method, but the majority of the participants lacked the knowledge of the essential elements of the Method and its authentic implementation.

Maria Montessori was the one true Montessorian. She left an abundance of books and writings in which her Method's directives and authentic principles and practices are extensively outlined for future use and dissemination. However, it is equally plausible to conclude that the Method's followers and practitioners implement and adopt the Montessori

principles and practices through their subjective lenses. In broad terms, the individual interpretation of the Montessori directives, may lead to a wide diversity of practices which all claim to be 'Montessori'.

The following sub-section will focus on the authentic practices proposed by Maria Montessori, and which are often adopted and used to a greater or lesser extent. To this end, five principles will be examined including philosophical perspectives on practices drawn from Maria Montessori's writings, the South African Montessori Association and this will be followed by reviewing pertinent empirical research. To provide a rationale for choice of each practice examined, first, Maria Montessori's philosophical writings will be examined. Secondly, SAMA's publications for a Montessori school's standards and accreditation will be reviewed. Lastly, to validate the choice of these five practices, empirical research for the identified practices will be examined.

2.4.1 Understanding the Authentic Practices Associated with the Montessori Method

Regardless, of the type of the school, private, independent, or public there are five practices associated with the implementation of the traditional Montessori Method. These practices are found and disseminated throughout Maria Montessori's writings, as well as the South African Montessori Association school recognition publications. They include (i) the use of traditional Montessori materials (to foster real-life experiences as opposed to imaginary play); (ii) providing pupils with uninterrupted work period (the 3-hour work cycle); (iii) opportunity for children's freedom of choice; (iv) the implementation of mixed-age groups (from 3yr.-6yr.) and (v) work presentation format (Montessori, 1916; 1964; 1965; 1966; 1967; 2012; 2013; 2014).

Montessori Materials

The Montessori classroom differs from the traditional school classrooms. The use of specifically designed manipulative didactic materials is evident in the Montessori classrooms as opposed to the imaginative toys for play activities used in the traditional classrooms (Montessori, 1966). In this educational approach, the learners' cognitive development and

learning is enhanced through direct engagement with the materials, thus it does not come from the teacher (Montessori, 2012; 2014). When children engage in work with real-life activities (as the Montessori materials offer), they engage in a repetitive process of work that fosters deep concentration. Montessori observed that the materials fulfil the child's developmental needs while imaginative play is a fulfilment of something that lacks in the child's development (Montessori, 1965). In broad terms, Montessori has not incorporated imaginary play into her work cycle, but real-life activities using materials that enable children to learn through self-discovery. The Montessori materials have built in control of error characteristics where children can self-correct and learn from their mistakes (Montessori, 1966). In addition, Montessori emphasised real hands-on materials which ultimately provide children with real experiences that indirectly enhance their development and understanding of their surroundings.

Consistent with Montessori's recommendations for real life materials, SAMA's pertinent standards prescribe the use of a full set of authentic Montessori materials. In this regard, SAMA calls for their member schools to provide children with one set of each of the materials, appropriate for the child's age and stage of development (SAMA, 2021). In their paper published 2021, SAMA states that "a full range of Montessori materials appropriate to the age for which it is prepared should be implemented that shall serve the development and pedagogical needs of the children using it" (SAMA, 2021, p. 3). This is reiterated in SAMA's published paper for school recognition and implementation of the Montessori curriculum. What is clear Is that SAMA's standards are consistent with Dr Montessori's recommendations on the use of appropriate materials.

Empirical research on manipulative materials suggests great benefits for learners when classrooms are equipped with a full array of Montessori materials. Mallet and Schroeder (2015) examined academic achievements between Montessori and non-Montessori learners. The basic tests for reading and math scores (Iowa Tests of Basic Skills- ITBS) were in favour of Montessori learners, showing a statistically significant difference for Montessori learners. The positive factor that contributed to the learners' high achievement in this study, for Mallet and Schroeder (2015) was the fact that all classrooms were equipped with a full range of

Montessori materials. Consequently, the findings suggest that the children in the Montessori schools may benefit greatly and enhance their math and language skills through instruction using Montessori manipulative materials. Similarly, Kayili and Gonen (2018) found that with use of Montessori materials, mentally disabled children gained greater fine motor skills and the ability to further maintain them, through continuous use of the materials. Dogru (2015) obtained similar results when researching the effects of the Montessori materials in terms of the concentration and attention skills of learners. These findings therefore appear to support Dr Montessori's notion that the Montessori materials enhance and further develop the child's overall development and understanding of their world.

Uninterrupted Three-Hour Work Cycle

When children can freely choose an activity in the classroom, they can engage with the work for long periods of time. Dr Montessori observed that children work through two phases of a work cycle (Montessori, 1966). In the first phase which lasts around an hour, Montessori (1966) found that the children select familiar tasks to work on followed by a second phase of prolonged, intense and challenging work. In between the phases, Montessori observed that the children show agitation and disorderliness (Montessori, 1965). When the children are allowed to settle while choosing new work, they can quickly become absorbed by the work at hand. However, if interrupted by the teacher, their concentration is hindered, and the children remain unfocused and restless (Montessori, 1964). Therefore, as Montessori observed, children need an uninterrupted work period to develop attention and sustain concentration to engage in a new challenging activity. Montessori (1965, p. 97) stated that when the second phase of the work cycle finishes the "children appear rested, satisfied, and uplifted." To this end, Montessori (1964) believed that the fulfilment of this whole work cycle is important for children's development of self-regulatory mechanisms and their self-discipline for work.

The South African Montessori Association (SAMA), support similar standards of a long uninterrupted three-hour work cycle, in their recognition and accreditation of Montessori schools. They specify that "Montessori schools accommodate an extended period of

uninterrupted self-chosen activity - a period during which children can choose their own activity and work undisturbed for a minimum of three hours" (SAMA, 2021, p. 2).

Research on concentration and attention, point to the fact that children need a considerable period to completely process the given information (Moffitt et. al, 2011; Petersen & Posner, 2012; Blair & Raven, 2015). Shivji (2016) examined learners' engagement when provided with long uninterrupted work hours, in one Montessori school in New England. It was found that when children are provided with a longer period of work to engage with the work at hand, they not only increased their concentration levels, but attained high levels of self-regulation. Research on attention and concentration of children, shows that children do concentrate when engaging in an activity; however, if their concentration is interrupted by the teacher, children find it difficult to re-establish their concentration levels (Goerg, 2016). In addition, the learners' subsequent attention and concentration span will be much shorter, if it can be maintained at all (Shivji, 2016; Goerg, 2016). These findings indicate the importance of a prolonged work period, where children can uninterruptedly develop attention and maintain concentration for extended periods of time.

Freedom of Choice

Maria Montessori proposed that the children's inner urges direct them to activities in the environment that are crucial for their self-construction in different growth periods (Montessori, 1965; 1966). When allowed freedom of movement and freedom of choice within the environment the children, through interaction and collaboration with others, can engage in an activity for as long as they wish, uninterrupted by teachers. In this way they engage in self-construction and self-regulated behaviour (Montessori, 1965; 1966). Montessori (1966) maintained that children should make their free choice when selecting an activity, through movement to choose where they will work, and collaborate and interact with peers (Montessori, 1964; 1966). Once the children are engaged in an activity, Montessori (1964; 1965; 1966) insisted that they should be left working for as long as they wish, because this is the path to self-regulated behaviour and autonomy.

Similarly, Montessori emphasised the needs of the collective interests of the classroom. As such, the freedom of choice of individual children should be guided by the teacher in order to preserve the uninterrupted work cycle in the classroom (Montessori, 1964). This can be achieved through constant observations, where the teacher can determine the activity to be introduced based on the child's interest and abilities. Montessori (1966) maintained that a child can choose whether to have a lesson, and to choose only activities that have been presented to them previously. The activity presentations in the first cycle of the work period, are needed for the child's further self-initiated engagement with other activities (Montessori, 1964). The foregoing contention is found in her book "Spontaneous Activity in Education" where she states:

> The children are free to choose the exercises they prefer; but of course, as the teacher initiates them in each exercise, they only choose the objects they know how to use. The teacher, observing them, sees when the child is sufficiently matured for more advanced exercises, and introduces them to him, or perhaps the child begins them for himself, after watching other children more advanced (Montessori, 2014, p. 102).

SAMA, also addresses and recognizes this aspect in their exposition of standards for school recognition. The practice of freedom of choice and movement, however, is not expounded in detail in SAMA's publications.

In SAMA's documents for school recognition, it is stated that "freedom of choice is a central feature of the Children's House environment. Children learn that free choice carries with it responsibilities and consequences, understandings that become increasingly important as they move through the later school years towards adult life" (SAMA, 2021, p. 19). Further to this, they state that children can work with an activity if that activity has been previously presented to them. In this case, the child can work with the activity freely for as long as s/he wishes. SAMA's guidelines regarding freedom of choice are not as detailed as Dr Montessori's recommendations on this practice, however they are still consistent with Dr Montessori's notion that freedom of choice is beneficial for the children. This freedom of choice and movement are of great importance as a practice in the Montessori Method since it encourages children's autonomy which is a crucial tenet of the overall Montessori philosophy.

Quite interestingly, research on this issue have generally supported Montessori's belief. Beck (2018) examined the impact that freedom of choice has on learners' academic self-regulatory levels and academic achievement. The research showed that learners displayed increased levels of positive behaviour towards learning when given the freedom of educational choice. Irving (2016), similarly, states that the freedom of choice yields better results, thus children achieve better results on tests. Due to their free choice, children better engage in the task at hand, while also developing their sense of self-efficacy. Nwosu (2021) found that learners' choices enhance their intrinsic motivation for learning. When children are allowed to make meaningful learning choices, their self-esteem and sense of competence are enhanced. The research discussed above concurs with Dr Montessori's perspective on freedom of choice, viz., that freedom of choice is closely connected with the learners' sense of autonomy and academic competence.

Rathunde's (2014) study on educational choices reported similar outcomes as the above reviewed studies (Irving, 2016; Beck, 2018; Nwosu, 2021). However, Rathunde (2014) shows that the probability of self-directed learning in free choice situations will happen only if learners are provided with instruction beforehand. That is, learners who receive teacher guidance/instruction to freely select their experiences, gain more by comparison to learners who are allowed to choose freely and only receive instruction subsequently. Thus, according to Rathunde (2014), learners who received instruction through short material presentations by the teacher were more successful in their self-initiated learning.

From the discussion in this section, it will be evident that the research reviewed endorse Montessori's view that children benefit when given freedom of choice for learning but that they need help and guidance from a more experienced individual in order to make appropriate choices for future learning.

Mixed Age Groups

The multi-aged group of children in the classroom is a unique principle of this educational approach, making it distinct from other educational approaches. Montessori envisioned this

principle as an indirect aid to the child's development (Montessori, 1964). Children can seek help from the older children in the class and this can indirectly grow their self-esteem. Also, in this social environment, the child's social development is enhanced because s/he learns fundamental rules of society's hierarchy, which prepares the child for life (Montessori, 1966). In the classic Montessori classroom, a three-year age span is the norm and includes age ranges from two and a half years of age to approximately six years of age. Dr Montessori (1966) stated that the mixed age grouping in the classroom promotes peer tutoring, where older children help their younger peers, which encourages peer collaboration. She observed this in her school 'Casa dei Banbini', where children benefited from this arrangement (Montessori, 1967). Younger children showed intrinsic interest in the work of the older children. When the older children enthusiastically presented the lesson to their younger peers, they were able to gain a deeper understanding of what they have comprehended previously (Montessori, 1967). Maria Montessori described the gains from the vertical grouping in her book the "Absorbent Mind" as follows:

> … children of different ages help one another. The younger ones see what the older ones are doing and ask for explanations. These are readily given, and the instruction is really valuable, for the mind of a five-year-old is so much nearer …. to the mind of a child of three … There is a communication and a harmony between the two that one seldom finds between the adult and the small child … There is between them a natural mental "osmosis."
>
> (Montessori, 1967, p. 226)

SAMA (2018) encourages a similar perspective on mixed aged groupings in their paper for school recognition. Their first principle indicates the importance of multiple age groupings and states that "[m]ixed-age classes comprise at least three-year groupings corresponding to the Planes of Development: 3 – 6; 6 – 9 and 9 – 12" (SAMA, 2021, p. 2). They also indicate the advantages of the mixed aged groupings. According to them, the children learn appropriate behaviour from the older children through experiences "that stimulate sense of caring and responsibility for others", where the learners are exposed to diverse learning interests from across the multi-age group (SAMA, 2021, p. 10).

Research findings on mixed-age classes point to positive outcomes for children in both pre-school and elementary levels. Alwi et. al. (2021), argue that children benefit from participation in multi-aged classrooms because they show better emotional and social abilities as a result of their positive interactions in the classroom. Such positive interactions, according to Alwi et. al. (2021), builds the children's sense of self and confidence. This research supports Montessori's belief that children can form relationships harmoniously in a multi-aged classroom.

Other research also supports the positive effects of collaboration in multi-aged classrooms. Plotner, Carpenter and Tomasello (2015), found that collaboration between different ages positively affects children's social preferences and pro-social behaviour. The younger children in the group see their older peers as role models that can offer help and instruction when needed. Furthermore, their research shows the advantages of mixed age classes not only at pre-primary levels but at elementary levels as well. Parrott and Cohen's (2021) findings point to similar results. They found that multi-aged groupings were beneficial for elementary children's pro-social connections. Overall, they have reported that the differently aged groups developed the children's empathy, sense of caring, cooperation and even compassion between peers. As such, there is congruency between these findings and Maria Montessori's belief that children benefit in multi aged classrooms with three-year age spans and where cooperation and peer tutoring is encouraged by the teacher.

Work Presentation Format

Activity/lesson presentation in the Montessori classroom provides the child with the use of materials in the environment corresponding with the child's developmental needs (Montessori, 1965). Because of this correspondence, Montessori emphasised the individual lesson presentation according to the child's needs and ability (Montessori, 1964). Therefore, the presentation of a lesson through the manipulation of materials should be geared towards the individual child's level of functioning (Montessori, 1967). Montessori (1966; 1967; 2014) believed that the lesson should be presented in a manner that will attract the child's attention levels and provoke interest in the activity. The teacher is then required to observe the child's material use and to assess the child's interest and understanding of the presented activity.

Montessori (1967; 2014) believed that with observation the teacher can assess the child's knowledge and then determine the next lesson presentation.

Consequently, Montessori asserted that children should not be presented with material below their capabilities that can hinder their interest and performance in the future (Montessori, 1966). Furthermore, children should not be presented with collective lessons. In her words:

> … [t]he teacher cannot give collective lessons. Such lessons, indeed, will always be very rare, since the children being free are not obliged to remain in their places and ready to listen to the teacher, or to watch what she is doing. The collective lessons, in fact, are of very secondary importance, and have been almost abolished by us.
>
> (Montessori, 1964, p. 107)

While Maria Montessori emphasised individual lesson presentations, SAMA (2021) in their school recognition publication do not emphasise the importance of individual lesson presentation over collective presentations. They state that "individual learning is more effectively supported because there is more opportunity for teachers to know the students well" (SAMA, 2021, p. 8). They believe further that lessons should be presented to small groups. According to their document ". . . because most lessons are presented to individuals or small groups . . . all children in the lesson are given the opportunity to show they know how to use the materials . . ." (SAMA, 2021, p. 12). The association cursorily mentions the importance of individual lesson presentation and approves of small group instruction, but fails to elaborate the benefits of individual lesson presentation in a detailed way. However, they do encourage teachers to observe individual children's spontaneous progress with an activity, and to record the child's ability, interests, and developmental progress to plan for further learning and developmental advances.

In support of the idea of 'individualised instruction' many studies have demonstrated the advantages and benefits of individualised lesson presentations. Kurt (2017) states that with individualised lessons learners' outcomes are improved, resulting in learners' satisfaction and motivation for learning. Almulla (2018) asserts that one-on-one instruction provides learners

with the academic support needed for enhancement of their motivation, academic performance and participation. Supporting the foregoing, Liebfreund and Amendum (2017) found that one-on-one instruction leads to a minimising of the number of students who struggle academically or have learning disabilities. Collectively, these studies point to the benefits of individualised instruction.

In this section, five practices were examined from Maria Montessori's writings on her Method's philosophical directives and the South African Montessori Association's (SAMA) school recognition standards, to provide a rationale for the practices which can be called 'authentic Montessori practices'. It is important to note that since Maria Montessori never wrote and published guidelines for classroom practice it is necessary to infer these practices from her philosophical thinking on what should happen in in a Montessori classroom.

The principles and practices which informs Montessori's Method discussed in this section will serve as a guideline for the forthcoming literature review sections and provide the basis for the observation framework and interview guide for data collection. The next section will focus on the research on teachers' understanding of the Montessori Method with specific reference to the teachers' understanding of the philosophical practices underpinning the Montessori Method.

2.5 Teachers' Understanding of the Montessori Method

In the preceding sections of this discussion, I provided an account of Maria Montessori's philosophical principles which inform the Montessori Method. As it was shown, these philosophical principles serve as a foundation for the teaching practices she proposed. As such, teachers' understanding of the Method depends greatly on the extent to which they have internalised the Montessori theory and are able to apply the same in a classroom setting. However, there is convincing evidence, which will be presented below, which shows that teachers do not necessarily internalise this theory (and its attendant practices fully) and tend to modify and implement them in idiosyncratic ways.

In the extant literature it is evident that a very limited number of researchers have investigated the teachers' understanding of the Montessori Method. These researchers have examined the teachers' adoption and understanding of the philosophical principles of the Method to determine the extent to which they enact the philosophical principles in their classroom practice.

In a case study of two Montessori schools, Abu (2012) examined four teachers' conceptualisation of the most prominent practices in the Montessori Method. Findings showed limited understanding of the methods practices amongst the participants. Most repetitive notion in the teachers' responses was the notion 'independence' and children reaching independence. One of the teachers stated that "Montessori education is entailing independence … We are trying to develop an independent learner" (Abu, 2012, p. 71). Two of the teachers cursorily mentioned the principle and practice 'freedom of choice'. Only one teacher mentioned having mixed aged groups. This teacher understood that the Montessori Method promotes peer learning through mixed aged groups, where children build "strong sense of community" (Abu, 2012, p. 73). These teachers understood the Montessori Method as a child centred method, where children are provided freedom of choice in a multi aged groups to develop their independence. Abu (2012) concluded that the teacher's understanding was pointing to the child centredness of the Method. Since, the discussed practices aid the child's development and are structured with aim to serve the child as the main tenet in this Method. What is evident, is the responses these teachers provided lacked detailed elaboration on these foundational principles. Again, while the child's independence is foundational outcome in the Montessori Method, there are greater number of principles and practices in the whole entirety of this Method that have not been discussed by the four participants in Abu's study.

Similarly, Alghamdi (2016) examined the teacher's subjective belief of Montessori developmentally appropriate practice. Alghamdi examined 37 preschool Montessori teachers and their understanding of most appropriate practice in the Method. The results indicated that most appropriate for the Montessori Method practice is child centred approach. Namely, the teachers understanding was that in the Montessori Method the child is placed at the

centre of the whole educational process. Another principle mentioned by the teachers is that the Method meets the child needs and allows the child to develop independence, by making independent choices for learning. Alghamdi (2016) concluded that the teachers showed comprehensive theoretical understanding of the Montessori Method' s related principles and practices. Their understanding drew theoretical guidance from Maria Montessori's philosophical directives. Maria Montessori believed that children learn and develop in educational system if allowed independence. Therefore, it was concluded by Alghamdi (2016) that the teachers understood the Montessori Method as a method that facilitates the child's independence - for children to learn independently in a free environment.

Ghatani (2014) study obtained similar results as Alghamdi's study. Ghatani (2014) examined the teacher's perception on the Montessori Method, by surveying 40 pre-primary teachers from 20 Montessori schools. The results from this study indicated that great number of teachers agreed that the Montessori is a child centred Method, that follows the child's natural development. Similarly, 85% of the teachers agreed that the Montessori Method facilitates the child's independence, and is based on the children's development of independence. Further to this finding, 80% of the teachers agreed that to understand the Montessori Method as a child centred Method, is essential to understand the child's individual development by following the child in each developmental level. Most of the teachers opined that the Montessori Method encourages learning through collaboration and peer tutoring in a mixed aged classroom. Ghatani (2014) concluded that it is essential for teachers to have a sound understanding of the Montessori theory to implement the Method faithfully according to Montessori's directives.

As noted previously, individualised lessons are crucial in the Montessori classroom. However, research point to variation in understanding and implementation of this dimension by teachers. Fagan (2014) studied phonological awareness of kindergarten learners. She observed that one of the teachers gave learners collective lessons on phonetic sounds instead of individualised instruction. In the lessons the teacher did, for example, use the phonetic sounds lesson, viz., the Sandpaper letters developed by Dr Montessori, where she traced the sandpaper letter by pronouncing the sound to the child individually (Montessori, 1967). This

teacher failed to address and justify the benefit from this principle of individualised lesson for the child's development and learning, when enacted in practice. The adoption and implementation of collective lessons points to lack of understanding of this philosophical principle, and dissonance in understanding of Montessori's directives for teaching practice. As Maria Montessori (1967) stated in her writings-individual lessons are crucial and they should be geared towards the child's individual level of learning and development. Teachers cannot present one lesson collectively in a mixed aged classroom, since the levels of learning and development of a three-year-old differ to that of a six-year-old. Ultimately, Fagan (2014) examined the teachers' understanding of the philosophical justification for the Method but did not examine the teachers' reasons, or the factors behind the adoption of collective lessons.

As was shown earlier, Maria Montessori emphasised the importance of freedom of choice in a prepared environment where the learner's independence would be fostered. Studies revealed mixed findings as to how teachers understand and implement this practice. Ender and Ozcan in 2019 examined teacher's perceptions on the Montessori Method. From the 67 teachers investigated, the results indicated variance in how teachers understand this aspect of the Method. A relative number of the teachers in the study showed a sound understanding of the Method and allowed children the freedom of choice to choose activities to work on; adopted individualised child centred lessons; and supported the child's independence. However, there was a greater number of teachers who demonstrated a lack of understanding of this Montessori principle and its related practices. More specifically, the teachers' understanding of the importance of freedom of choice to participate in an activity or take breaks during the work cycle differed significantly. On the strength of their research Ender and Ozcan (2019) concluded that most of the teachers in the study, lacked a sound understanding of this fundamental practice in Montessori's thinking.

While Ender and Ozcan's (2019) study points to teachers lack of understanding of some of the method's related practices, Kocabas and Bavli's (2021) study provided positive findings related to teachers' understanding of the method's principles and practices. Kocabas and Bavli (2021) examined the teachers' collaboration practices with learners. By interviewing 12

preschool Montessori teachers, the study's findings pointed to teachers' high agreement and understanding of the individual lesson presentation practice. The participants in this study emphasised one-on-one communication during an uninterrupted work cycle. These teachers stated that the individualised lesson presentation practice is crucial for the Montessori Method, and that it provided the teacher with the opportunity to assess individually the child's needs and learning readiness. All the teachers in this study agreed with the statement below:

> I can communicate with the child better when I work individually with the child. We express ourselves more comfortably, we actually express according to the child and only to that child. That's why I think it is more effective and better with respect to individual activities […]
>
> (Kocabas and Bavli 2021, p. 450)

This statement is clearly in keeping with Maria Montessori's philosophical principles on individual lesson presentations and all the teachers in Kocabas and Bavli's study agreed and emphasised the importance of this philosophical principle.

Self-regulation in the Montessori Method is seen as a principle that leads to the child's autonomy and is another important principle in Montessori's Method. Maria Montessori (1964) believed that children can develop autonomy only when allowed freedom of movement within the prepared environment. Patten and Bodden (2019) examined the importance of movement to help to improve the child's executive functioning behaviours, or self-regulation. Three teacher participants were interviewed in this study. These teachers showed a clear understanding of how important freedom to move is for self-regulative behaviour in children during their learning. One of the teachers commented that attaining self-regulation through movement "helped with forming memory, focus and motivation ... without it, children cannot learn" (Patten & Bodden, 2019, p. 17). However, while the teachers showed a clear understanding of this principle, Patten and Bodden's (2019) classroom observations yielded a different picture. The observations of the teachers' practices revealed that some of the movement activities distracted children to the point where the children found it difficult to concentrate on a given activity. This disconnect was

due to the lack of planned transitions between activities by teachers, in particular novice teachers. Patten and Bodden (2019) asserted that the more experienced teachers demonstrated a much better understanding of this aspect of the Montessori Method. These teachers, for Patten and Bodden (2019), had clearly internalised the necessary traits of the Montessori philosophy which enabled them to prepare an authentic Montessori environment which promotes movement and ultimately supports the development of self-regulative behaviour in children, through free choices. What is evident from this research is that experience is important for a clear understanding of the Montessori Method and its philosophical underpinnings. The years of teaching and guiding children though their learning and development, allows teachers to learn from their misappropriation and misinterpretation of the Montessori theory into practice.

For a teacher to be engaged in 'teaching' she needs an educational philosophy and theory which underpins her/his practice. However, the connection between the understanding of educational theory, philosophy, and practice is complex. This complex interrelationship can result in a gap between teachers' understanding of the educational theory and what they implement in practice. To avoid this gap. Pickering (2014) suggests that teachers should engage in constant 'self-scrutiny'.

Pickering (2014) examined teachers' understanding of the Montessori philosophy and the enactment of it in daily classroom practice through self-reflection. Pickering's surveyed 44 teachers and interviewed 15 early childhood Montessori teachers from three Montessori schools. Findings from this study revealed a mixed understanding of the Montessori Method and the philosophy underpinning it. Most of the teachers agreed strongly with the philosophical principles of the Method. More specifically, 90% of the teachers stated that it is important to follow the child, while being guided by the Montessori philosophical principles. However, 10 % of the teachers disagreed with the Montessori philosophy not because of a misunderstanding of the Method's principles, but due to a felt need to challenge the philosophy. These teachers believed that by challenging some of the philosophical principles it would deepen their understanding of the Method and this in turn will "lead to better practice" (Pickering, 2014, p. 45). Regardless of the small number of teachers

challenging the method's philosophy, all the other participants agreed that Montessori education focuses solely on the needs of the individual child. According to Pickering (2014), teachers confirmed that the understanding of the Montessori philosophy and theory is fundamental to the understanding of how practices should be implemented. The teachers asserted further that children construct knowledge only when allowed freedom of choice, independence through individualised lessons - principles fundamental to the Method. Even though, only a few of the principles of the Montessori philosophy and practice were examined in Pickering's (2014) study, the findings revealed a clear understanding of the Method among these Montessori teachers. Also, according to Pickering (2014), those teachers who felt that they should challenge the philosophy, concentrated only on tangential aspects of the philosophical principles and not on the fundamental ones.

Whereas some researchers found a gap between the philosophical understanding and the practices of the Method (e.g., Patten & Boden, 2019; Ender & Ozcan, 2019), other researchers found that some Montessori teachers had a sound understanding of the Method's philosophical principles (e.g., Pickering, 2014; Kocabas & Bavil, 2021). Ak (2019) obtained results consistent with the findings of Pickering's study. Ak (2019) investigated teacher's views of the Montessori Method, by examining the teachers' understanding of the Montessori Method. Eighteen pre - school teachers in total were interviewed regarding their core understanding of the Montessori Method. Ten of the teachers reported an understanding consistent with the Montessori Method where children are encouraged to make their own choices freely in their learning environment. One of the teacher's highlighted the need for students' freedom of choice as a prerequisite of the Montessori Method. This teacher's knowledge of the Method was not limited only to the training she received, but it was due to reviewing a great number of Maria Montessori's books and internalising the philosophical principles and incorporating them into her own beliefs. Another teacher, similarly, stated that Montessori education is a child-centred method which discourages an authoritarian approach, and where teachers provide the appropriate materials which encourage children to make their own free choices. A third teacher emphasised that the "protection of children's independence is very important in Montessori education. Educational environment provides necessary conditions to protect this independence and to

enable children make decisions themselves" (Ak, 2019, p. 86). In addition, half of the teachers emphasised the importance of individual lesson presentation with the use of authentic Montessori materials. In sum, the teachers in this study demonstrated a sound understanding of these core philosophical principles of Montessori's thinking and her recommendations of the practices related to her educational Method.

To conclude, the foregoing studies indicate that there are relatively great disparities among teachers in their understanding of the Montessori Method. While it is essential to internalise the Montessori philosophy underpinning the authentic practices, some of the teachers in the studies above showed a lack of knowledge of how essential is for these principles to be implemented in their everyday classroom practice. There are numerous reasons and factors which influence Montessori teachers to shift from implementing authentic practices to modified practices which are incongruent with Montessori's thinking and practices. Some of the common modifications of the Method by teachers will be reviewed in the upcoming sections and this will provide a lens for further clarity of how teachers understand, adopt, and implement the Montessori Method. Before common Method modifications are reviewed, it is essential to review the teacher's role in the Method: as the teacher's role emanates and it is closely connected with the theoretical method's underpinnings and the delineated practices related to the Montessori Method. Therefore, the next section will review teachers understanding of their role in the Montessori Method.

2.6 Teachers' Understanding of their Role in the Montessori Method

The Montessori teacher in the Montessori Method has many roles, in comparison with the traditional teacher's role. An authentic Montessori teacher is different to a traditionally trained teacher. While the traditional teacher is the custodian of information and control, where children passively receive that information, the Montessori approach introduces a different kind of teacher that is passive in the process of the child's development and learning. Moreover, in the Montessori tradition the term 'teacher' is abolished and instead the terms 'directress' or 'guide' are used. The use of these terms is intended to indicate that the 'teacher' in the Montessori classroom directs or guides and observes the child's interests,

tendencies, and overall development. In this approach, the 'teacher' avoids constraining the child, instead allows the child to develop by making free choices suitable for their developmental stage.

Montessori stated that "instead of giving out what she has in herself, the teacher must bring out the full possibilities of the children" (Montessori, 1916, p. 30). In her role as directress, or as guide, the 'teacher' should provide children with the means and guidance to self-develop to higher developmental levels (Torrence & Chattin-McNichols, 2004; Hedeen, 2005; Murray, 2008; 2012; Chattin-McNichols, 1992; 1998; Christensen, 2016; Ak, 2019).

Isaacs (2018) supports this claim where she states that "[t]he role of the teacher in Montessori settings, catering for all ages of children, is to guide rather than teach or lead the child in his/her learning" (p. 15). To do this, and fulfil the role of a guide, the teacher first and foremost needs to commit to a process of self-observation. This process of self-observation includes the "development of self-awareness, that will enable the teacher to filter out their own inclinations and prejudices" and through this, the teacher can recognise the children's developmental needs (Lillard, 2016, p. 265). In Montessorian terms this assessment of self-observations is construed as a 'spiritual preparation' (Montessori, 1965). In other words, spiritual preparation entails the teacher's ability to reflect and self-evaluate her/his performance and her/his own practices, while guided by the Montessori directives in the quest to serve the child's proximal development.

The self - observations employ a set of assessments that are not limited only to the teacher's spiritual preparation of fulfilling her role as a Montessori teacher through self-evaluation, but also entails observing the children's academic, physical, social, and psychological progress (Montessori, 1966). This way, it enables the teacher to determine the child's progress and to provide evidence of the learning and development that unfolds in the classroom. For the teacher to determine the child's development through observation, according to Maria Montessori is achievable only through one "fundamental base - the liberty of the pupils in their spontaneous manifestations" (1964, p. 80). Thus, through insightful observations of students, the teacher's role does not occupy the central position in the child's learning

process. Instead, the teacher's role is a passive one and she acts only when needed by the child - to guide, direct and facilitate the child's learning. The teacher introduces the child to an activity and when the child works independently the teacher should withdraw and observe the child from a distance (Berbieru, 2016). Similarly, Maria Montessori (1965, p. 131) stated that:

> … [i]t is necessary for the teacher to guide the child without letting him/her feel her presence too much, so that she may be always ready to supply the desired help, but may never be the obstacle between the child and his experience.

In other words, the teacher should not be interfering while the child is absorbed by work. As Maria Montessori's argued, "[t]he educator must be very careful. Non-interfering means not to interfere in any way" (Montessori, 1967, p. 229). In these terms, for Maria Montessori not interfering means not to interrupt the child's work even with appraisal when the child is showing improvements. As when a child's purposeful work is interrupted, the inner work of thought is interfered with, and the momentum of concentration is lost. Ultimately, observations and assessments go hand in hand in this Method. Through systematic observations, the teacher assesses the child's learning and developmental progress, while systematically recording the child's progress and what the child has yet to learn (Barbieru, 2016).

Another of the many roles, for Montessori teachers is to prepare the environment and to enable the learners' interaction with that prepared environment (Ak, 2019). Namely, to provide opportunities and to guide when learners encounter difficulties navigating the environment. Maria Montessori asserted this in her book the 'Absorbent Mind' in 1967 – in her words: "[t]he teacher is custodian of the environment …. with real understanding and real respect for the children" (pp. 226-227). As such, Huxel (2013) argues that the teacher is the "crucial piece providing the foundation for the other essential elements to unfold organically and naturally in an authentic Montessori environment" (p. 33). With this being stated, the role of the teacher as a custodian of the environment is to prepare the learning environment, and to ensure the didactic materials are neat and organized. This is to attract the child's

attention for learning as they pass through the various sensitive periods and developmental stages. The teacher does not only understand the importance of guiding the children's natural development but is knowledgeable in the accurate and appropriate didactic use of material (Cossentino, 2009; 2010; Barker, 2012; Lillard, 2016). Ultimately, the teacher is the bridge between the children and the environment, and her role Is to bring the learning environment to life for the children, to systematically observe, guide and facilitate the children's needs.

Lillard and Else-Quest (2006) state that Montessori teachers can acquire the distinctive skills discussed above only by receiving training via accredited Montessori training organizations. Adefunke and Olatunde (2015) examined the Montessori approach to teaching in Early Childhood Education (ECE) in Ogun, Nigeria. In their research with 30 teachers Adefunke and Olatunde (2015) found that there is an essential relationship between Montessori teacher's valid qualifications and the teaching and learning students' outcomes at Montessori schools. They showed that only a properly trained, certified teacher has the expertise and skills to implement a high-fidelity Montessori practice, while the lack of proper credentialed qualification "jeopardizes the teaching and learning processes" in the Montessori classrooms (Adefunke & Olatunde, 2015, p. 52). A properly certified teacher is acquainted with the Montessori theory and philosophy. When the teacher is acquainted with the Montessori directives on teacher roles, she can faithfully enact the same in practice. Degirmenci et al. (2018) argue that to be a Montessori teacher is to internalize and continuously to reflect on the Montessori philosophical principles; respecting the child's development as unique, to encourage social development in mixed age groupings and to prepare the environment with consideration of the child's needs. Similarly, Cossentino (2010) points out, to follow the above-mentioned principles the teacher in this Method ensures individualised lessons by directing the child's intrinsic motivation for work, and respecting the child's quest towards independence. In broad terms, training the teacher in the Method's philosophy and theory of developmental stages, can lead into comprehensive understanding of the teacher's role in the Method's related principles and practices, as well as to the 'discovery of the child'.

However, as mentioned previously one cannot become a 'Montessori teacher' simply through pedagogic training, a psychological preparation and awareness are equally necessary. As

Huxel (2013, p. 33) states “the pivotal piece of authenticity is the preparedness of the teacher beyond the credential.” With philosophical and pedagogical awareness of their role as ‘teachers’ they develop true characteristics of respect, care and concern for their learners (Huxel, 2013). In other words, the Montessori teacher assumes a new social identity furnished with unique characteristics which are to be continuously maintained and fulfilled, to be able to serve the whole natural unfolding of the child. As Montessori herself argued that “this method [of education] not only produces a reformed school but above all a reformed teacher, whose preparation must be much deeper than the preparation traditionally offered … it is the mission to be a scientist and a teacher” (Montessori, 2013, p. 276).

In view of the foregoing discussion of the role of the Montessori teacher on a professional and psychological level in the Montessori educational Method, two studies have assessed teachers’ understanding of the Method, and examined the teachers understanding of their roles in the Method. Ak’s (2019) study examining the teachers’ understanding of their role in the Method, demonstrated positive results; Ak (2019) examined 18 Montessori teachers, from different Montessori schools in Turkey. In this study, all teachers stated that their role is to be first and foremost a role model to the learners, with utmost respect and love for children. Secondly, the teachers underlined that their role is to observe and provide learners with a structured environment, rather than being an authoritative instructor of the children’s learning. Furthermore, more than half of the teachers explained how the teacher’s role is to monitor (observe) the learners and record their progress. To this, the teachers added that with observations and keeping records of the learner’s progress they can keep track of the child’s sensitive periods and assess the child’s individual development. This, thus points to thorough understanding of the central principles of the Montessori Method and parallels Maria Montessori’s recommendations. However, while many basic principles were discussed by the teachers, the principle of guidance or the role of a guide was not mentioned in this study. This principle, however, is emphasised by Maria Montessori in almost all her published books and articles. It would be correct to assume, that this absence was due to the training these teachers received - whether the emphasis was on the theoretical or practical dimension of the Method but leaving out guidance.

Atli, Tastepe and Koksal (2016), obtained results consistent with the above reviewed findings, in their study they also investigated Montessori teachers' views on the Montessori approach. Nine teachers were interviewed, following in-depth, semi-structured interviews. The findings revealed that most of the teachers interviewed agreed to high extent that the teacher's role in the Montessori Method is to respect, love and tolerate children. Three of the teachers, pointed to the fact that the teacher's role should be unobtrusive, and four teachers mentioned that the role of the Montessori teacher is to understand children's potential and to guide their learning. In contrast to Ak's (2019) study, many respondents in this study agreed that the role of the teacher is to guide children and to desist from any rewards or punishments. While the results obtained from these studies (Ak, 2019; Atli, Tastepe & Koksal, 2016), reflect differences in the sample and the design of how each investigation was conducted, there are similarities in the findings of how teachers understand their role. The only difference found in Atli, Tastepe and Koksal's (2016) respondents understanding of their role, is the emphasis teachers placed on the role of the teacher as a guide - guiding and understanding children's potential and developmental stages.

In another study conducted in 2018, Salassa examined the meaning of being a Montessori teacher. In this study 129 participants were selected and examined through a research tool called the 'teacher card'. The respondents in this study were required to point to the characteristics that in their opinion best describes the role of the Montessori teacher. Most respondents in this study pointed to the teacher as an observer. In addition, characteristics with high frequency were the teacher as 'careful' and 'humble'. In broad terms, the understanding of the contrast these two characteristics represent outline the role of the 'non-intrusive' teacher as observer of the child's learning progress in the Montessori Method.

As with the previously reviewed studies, the study of Almajed (2020) yielded similar results. In this study, five pre-primary teachers from three Montessori schools were interviewed to examine their understanding of their role in the Montessori Method. The teachers understanding of their role pointed to 'the role of a guide' and 'observer' as most frequent description of their role. All teachers in this study agreed that the most fundamental roles are the roles of a guide and an observer. Further to this, the teachers agreed that another

essential role of the Montessori teacher is to prepare the environment for the children on a daily basis to aid the children's learning in each of their sensitive period of development. The teachers understanding, conclusively, was in line with Maria Montessori's recommendations on teacher's roles in her Method.

While the research reviewed indicates that a significant number of Montessori teachers do understand the nature of their role, this is not the case in general. Despite the clearly apparent characteristics of what constitutes a Montessori teacher on a theoretical and practical level, teachers still fail to acknowledge and internalise the importance of these pivotal elements. Consequently, since the teachers' role is underpinned by the Method's philosophy and theory, and closely tied with the teachers' role to enact the authentic principles in practice, it is found that teachers fail to implement authentic Montessori practices in their classrooms and tend to modify their practices. In the next section, I will review how the Method is implemented by teachers, concentrating on some of the common modifications and adaptations of the Method by teachers found in the local and international literature.

2.7 How Teachers' Implement the Montessori Method

The research on Montessori education is generally quite limited in South Africa. As mentioned previously, particularly in South Africa, only a handful of research papers can be found exploring Montessori education, with only one study examining the implementation of the Method. By contrast, the international research on Montessori education is more plentiful and complex, and the findings are quite divergent and inconsistent in some instances (Lillard, 2012a; Lillard & Heise, 2016; Marshall, 2017). These inconsistent findings could be a function of the nature and quality of the Montessori philosophy adopted and implemented by teachers in classroom practice. The following research, that will be reviewed below in this sub-chapter suggests inconsistent implementation of five practices recommended by Maria Montessori, in the South African and international domain of Montessori education. Practices as teachers: providing long uninterrupted three-hour work cycle; providing freedom of choice; implementing mixed age groups spanning three years; supplementation of learning materials

to the recommended Montessori materials; and, presenting lessons individually rather than collectively.

Marshall's (2017, p. 4) review of the efficacy of the Montessori Method in schools identifies a lack of fidelity to the "ideal Montessori." Montessori and non-Montessori grade eight students were compared for language, art and mathematics scores. The students at traditional classrooms outperformed the Montessori students because the Montessori teachers intentionally altered the Montessori Method by implementing evaluative marks through use of note and workbooks, as well as incorporating non-Montessori materials into their curriculum (Marshall, 2017). By contrast, children enrolled in higher fidelity programmes appear to attain higher levels of problem-solving skills and academic achievement if compared to the low fidelity Montessori programmes (Lillard, 2012b; Lillard & Heise, 2016; Marshall, 2017; Lillard, 2019). The lack of fidelity to the Montessori Method is therefore crucial and may explain the inconsistent findings on the efficacy of this Method.

Researchers should have an awareness and be able to recognize the adoption and implementation of the Method at the respective Montessori schools since not all Montessori teachers necessarily use the principles proposed by Maria Montessori. Interpretations of the Montessori approach are diverse and inconsistent in nature. This would be especially true in South Africa where numerous Montessori teacher training organizations are found operating with no clear specifications as to what constitutes authentic Montessori education.

Lillard (2012a) argues that it is imperative to establish whether the so-called Montessori schools and teachers' practices remain true to Montessori's ideas. In other words, the training of the Montessori teachers; the use of the complete, genuine sets of Montessori activities; the three-hour work cycle, the vertical grouping of students (in multi-aged classrooms), freedom of choice and individual lessons as discussed in the first section of this chapter, must be implemented in order to derive authentic results on the efficacy of the Montessori Method as an educational Method. The implementation of these ideas may vary in quality between schools and consequently, not all purportedly Montessori teachers follow the entirety of the authentic Montessori principles in their practices. On the grounds of the foregoing

considerations, Lillard (2019) argues that the evidence of the implementation of the traditional and authentic Montessori Method at schools shows that the Method is very effective for the optimal development of the child. Marshall (2017), similarly, indicates that teachers that adopted the authentic Montessori practices such as extended work periods of free choice and vertical age groupings in classrooms exhibit significant educational gains by comparison to programmes that did not adhere to Montessori's criteria of authenticity.

From the reviewed studies (Lillard, 2012a; Lillard & Heise, 2016; Marshall, 2017; Lillard, 2019), the extent of the differences in the Montessori practices as adopted by Montessori teachers is poorly examined. The differences in the implementation and adoption of the genuine Method as proposed by Montessori herself has been poorly examined in South Africa. Similarly, there is no research data to be reviewed on the pervasiveness of fully implemented Montessori practices by teachers.

More recent research conducted on a larger scale, namely Chen's (2021) study explored the implementation of the Montessori practices by surveying 210 Montessori kindergarten teachers. In this study practices such as length of work cycle and lesson presentations were significantly modified by teachers. From the total number of teachers, 96.7% reported that they implement the mixed aged practice (spanning three years) in their classrooms. However, 86% stated that they have work cycles similar to traditional schools, in other words the teachers implemented a two-hour work cycle instead of three as recommended by Maria Montessori. Further Method modifications were found in the way teachers present lessons. 56% of the teachers surveyed, stated that they gave collective lessons in the morning. These modifications depart from the high-fidelity Montessori practices discussed earlier and consequently limit the children's freedom of choice, and as a result these modifications are detrimental to the goal of the Montessori education, namely the learners' 'normalisation'. What is not clear from this study is whether the second work cycle reflects the same characteristics such as collective lessons, as the study discussed previously. However, it is reasonable to assume that in the Chen cohort of teachers, collective lessons are implemented in the whole work cycle, which as a result does not constitute an authentic Montessori Method.

As mentioned above, research point to high outcomes and benefits when Montessori practices are implemented with high fidelity. One high-fidelity, foundational practice is the implementation of the three-year age span or multi-age classrooms where children of different ages learn cooperatively through freedom of choice. Block (2015) examined the response to state standardized assessments in one public Montessori school, to establish the implementation of the Method. Block (2015) interviewed and observed the classroom practices of five teachers, for a period of ten months. This study revealed major modifications to the Method related practices, such as; the multi-age groupings in the classrooms, the provision of freedom of choice, and the three-hour work cycle. While Maria Montessori's writings clearly indicate the benefits for the child's social and emotional development and future learning that the multi-aged groupings offer, the teachers modified this practice by separating the multi-aged groups - instead of having three-years age span, they were separated into one-to-two-year age spans. Further modification to the Method's related practices included a shift from learner centred practice to teacher directed learning. A clear example of teacher directed instruction can be seen in the comment of one of the teachers stated, "We do not have time to twirl beads for 45 mins" (Block, 2015, p. 48). This type of comment not only points towards teacher directed learning, but also indicates the modification of another practice of the Montessori Method, namely, freedom of choice. Similarly, teachers provided children with shorter than the recommended work cycle. Namely the work cycle was modified, instead of three hours, teachers only adopted only two-hour work cycle, where additional extra activities further interrupted and shortened the work cycle. Moreover, Block (2015) found that there is another significant modification to the practice of mixed age classroom groupings. Instead of having three-year age span groupings, the teachers had two-year age groups per classroom. According to the teachers, this arrangement of two-year age groups, allowed them more opportunities for a single age group, using direct instruction to comply with the state curricula. The foregoing observations clearly shows a modification of Montessori's instruction practices and age groupings which dilute the authentic practices to satisfy the demands of the state curricula. As such, the Montessori Method in this study is not implemented with high fidelity by teachers.

Research on the types of modifications most common in a Montessori preschool programme in South Africa is evident in only one research study to date, viz., Ubisse's (2019) evaluative study of student outcomes in a Montessori preschool based in the township of Mfuleni in Cape Town. This study examined the implementation of Montessori tenets such as the three-hour work cycle, mixed aged grouping, and freedom of choice in activity engagement which are pertinent for children's social, emotional and academic outcomes. Findings from this study point to great variations in the use of the Method, where teachers intentionally modified the Method. The teachers in the examined classroom provided children with only 45-minute work periods, instead of three hours as recommended by Dr Montessori. Similarly, teachers used only 40% of the traditional Montessori materials, and they allowed learners freedom to experiment with activities that have not been presented. Learners' freedom of choice to work with the materials was omitted by teachers in this study, as well as the student grouping lacked the three-year age span. Ultimately the conclusion was drawn that due to poor implementation of the Method, the students in this Montessori classroom were falling behind in academic performance as well as social and emotional skills tests as compared to the control group of traditional students. These findings point to major deviations and modifications from the authentic Method as prescribed in Montessori 's writings, and points to the necessity to engage in further research on the understanding and implementation of the Montessori Method current in South Africa.

While Montessori emphasised individual lessons over group lessons, teachers have been found to differ of how implement and adopt this practice. Akabor in 2015, investigated the presence of inclusive practices in two Montessori classrooms in Gauteng, South Africa by examining four Montessori teachers. Even though it was not Akabor's objective to investigate how teachers implement the Method, detailed classroom observations on inclusive practices revealed modifications to the practices recommended by Montessori. Akabor observed that in a few instances, the teachers presented collective lessons rather than individualised teaching. One such instance is where the teacher presented lesson on the parts of speech to the whole class. In a second instance which she observed the teacher used direct instruction to present a lesson on farm animals to the whole class. Quite interestingly, other practice dimensions were implemented by the teachers with high fidelity to the Montessori approach.

The teachers allowed the learners freedom of choice and supported the learner's individuality to learn, without any interruptions. In addition, the multi-age grouping practice was consistently implemented in all classes. In the multi-age classroom teachers allowed children's cooperation and social interaction. Moreover, learners were allowed the freedom of movement. These practices are congruent with the authentic Montessori Method, and it follows the core principles recommended by Maria Montessori. Unfortunately, this study did not examine the reasons behind the adoption of collective lessons by the teachers.

Seen as a whole, the findings from the studies reviewed in this sub-section indicate that a great number of Montessori practices are significantly modified by teachers in Montessori schools. What is evident from the reviewed studies is that there is variation in Method implementation among teachers. Authentic Montessori practices as uninterrupted three-hour work cycle, freedom of choice, working only with Montessori materials, individualised lessons and mixed aged classes spanning three years are found to be adopted and implemented by teachers in non-congruent with the Montessori Method ways. While some teachers adopt fewer practices, others divert fully from the authentically recommended Montessori practices. However, these studies did not look at the factors which may have contributed to the teachers' modifications of the Method. Consequently, it would be of great value, to establish the social and psychological factors which may influence Montessori teachers to modify the Method. To address this issue the next part of my discussion will review some of the psycho-social factors which may influence teachers to modify the Montessori Method.

2.8 Psycho-Social Factors Pertinent to Method Modification

Montessori teachers have great importance in the implementation of the Montessori Method. As such, their understanding of the philosophical tenets of this Method plays a major role in how they adopt the Method's associated with these principles in practice. While some reasonable adaptation of the Method is to be expected, it is important to understand the social and psychological factors which may influence the Montessori teachers to depart from, and modify significantly, the authentic practices recommended by Maria Montessori.

Research on whether authentic practices are implemented by teachers and the factors hindering the implementation of the Method in Montessori classrooms is present in the work of Chaney (1991) and Zener (1994). Zener (1994) researched the implementation of Maria Montessori's recommendation of the process of 'normalization', surveying 156 AMI trained Montessori teachers' knowledge and interpretations of this process. According to Montessori the normalisation of children is a crucial outcome of the Method. Normalised children display characteristics in their development such as concentration, autonomy, self-regulation, love to work, and sociability. The surveyed teachers agreed to a significant degree with Maria Montessori's views and recommendations. However, 17 teachers disagreed with Montessori's ideas and this resulted in difficulties for them to implement the Montessori theory in their practice. Even though the classroom practice was not evaluated in this research, the findings correspond with those of Chaney's (1991), that the teacher's misunderstanding of Montessori's theory leads to a lack of practical knowledge and diverse beliefs of how children learn opposed to the tenets proposed by Montessori and the Montessori Method of education.

Chaney (1991) researched the extent of teachers' understanding and adoption of the Montessori philosophy using semi-structured interviews, questionnaires, and observations. His findings on the eight teachers included in the study showed a discontinuity between the teachers' understanding of the Montessori philosophy and its adoption in practice. The results showed that teachers were either inadequately informed/taught about the philosophical directives of the Montessori model or had insufficiently integrated the philosophical model with their own beliefs, and into their own cognitive schemas. Therefore, Method modification was evident in this study due to psycho-factors such as teachers following their own beliefs and interpretations of the model, or simply ignoring the misunderstood philosophical dimensions.

Both studies are, however, limited in scope and size. In Chaney's study only four teachers participated, while Zener's study included only teachers who were AMI certified and who received training which emphasised authentic Montessori practices. It is necessary therefore

to assess a larger group of teachers with diverse training background, to reach conclusive results on the implementation, understanding, and adoption of the Montessori Method.

More recent research demonstrates similar findings and variations on the implementation of the Method at schools, as the research conducted in the early 1990's. Abdulai (2018) examined the Montessori approach in six Montessori centres in the Ashanti region, Ghana. This study which included 61 Montessori teachers examined the teachers' qualifications as a determinant of the implementation of the Method; the use of materials during the work cycle; choice of participation in circle time; as well as class sizes. The findings raised major issues on how teachers implemented the Method and indicated a great variability of implementation. Most of the teachers were not trained in the Montessori Method, and additionally, also lacked the required certification for early childhood education. The scheduling of practices such as group work presentations and the limiting of peer tutoring was also found in this study. The results further showed that 71% of the respondents limited children's choice of work, which meant that children could not exercise their freedom to choose activities to work with during the work period. While the teachers agreed to some extent with the principles associated with Montessori education, they disagreed with having children of mixed age groups spanning three years in a class, as well as children's freedom to choose whether to participate in circle time and whether to work with other peers. The findings revealed further that only 25% of the interviewed teachers grouped children according to the 3-6 years of age recommendation, while the majority grouped children of two-years age spans (3-4 years). Abdulai (2018) concludes that due to factors such as a lack of teacher training and parents' demands and concerns, the Montessori Method implemented in the Ashanti region is significantly modified. This implementation was often due to the teachers' personal beliefs and their disagreement with Montessori's principles and directives. One limitation of this study was its reliance on a quantitative method, and it therefore lacked in-depth findings, which could have been obtained by adopting a qualitative research method.

In another study, Kural and Ceylan (2022) examined the effect of children's misbehaviour on the implementation of the Montessori practices in 13 teachers' classrooms, in Istanbul. The

findings in this study pointed to the fact that these teachers modified the practices such as freedom of choice in the classroom and the work cycle, due to children's disruptive behaviour. The teachers in this study adopted authoritarian, teacher led and punitive practices, which in turn limited the children's freedom to choose work independently in the classrooms. The teachers applied such practices to control the children's disruptive behaviour in the classrooms. In this sense, Kural and Ceylan (2022) conclude that children's misbehaviour, is a major social factor influencing teachers to adopt inconsistent with the Montessori Method practices, and to modify practices such as freedom of choice and uninterrupted three-hour work cycle.

Teachers' beliefs are found to play a major role in the implementation of the Montessori Method. Christensen (2016) examined the experience of one Montessori teacher, through interviews over one year. Christensen found that even though this teacher aimed to implement the Method authentically, certain social factors as parental demands influenced her practice significantly. The data from the interviews revealed that parents do not possess basic understanding of the Montessori practices and the benefits that these practices hold. Parents demanded that children should not be mixed in multi age groups, instead each class to be one age group of children. Therefore, to accommodate the demands and teaching duties placed by the societal context (as parental demands), created instances of psychological conflict for this teacher, influencing how some of the Method's related principles are enacted in practice. The educational belief of how children develop and learn additionally impacted this teacher's beliefs. This, in addition caused uncertainties and disagreement with some of the Montessori principles. From the data, Christensen (2016) stated that disagreement with the Montessori theory is caused by variety of social influences that teachers struggle to internalize and accommodate with their own beliefs, in turn impacting the implementation of authentic Montessori practices.

In another study, Hidan in 2014 examined teacher's beliefs on classroom management in Khang Valley, Malaysia. By employing a mixed method design, Hidan (2014) surveyed 71 teachers. The study found that a great number of the teachers were inclined towards behaviourist interventions in their classroom practices due to the difficulties they

experienced with children's behaviours, time management and handling the mixed-age groups. The data revealed that the teachers in this study failed to implement the practice of freedom and consequently tended to adopt authoritarian instructional practices due to a poor understanding of the Montessori philosophical principles. However, this study did reveal variations in the implementation of the Method by the teachers. Even though the number of teachers interviewed was small and only from one school, Hidan (2014) found that psychological factors such as teachers' disagreement with the Montessori theory, led to the teachers poor understanding of the Montessori principles and enacting the same in practice.

In a different study, Starling (2018) examined the fidelity of the implementation of the Method in an elementary Montessori school in Texas, by exploring the perceptions of 10 teachers. Starling's (2018) findings showed that most teachers did appear to follow the authentic Method, however they adopted and appropriated it in idiosyncratic ways. In other words, the limited appropriate training they received resulted in a lack of understanding of the Montessori philosophy. Similarly, in agreement with Abdulai's (2018) research, teachers in this study disagreed with Montessori's recommendations of individual lesson presentations. Starling observed that one of the teachers presented a letter phonetic lesson to a group of nine children and consequently offered praise to the learners for their participation. Montessori (1967) firmly stated in her writings that there is one thing teachers and adults must "never do, and that is to interfere by praising a child's work or punishing him if it is wrong" (p. 244). Due to factors such as a lack of resources teachers adopted the use of cartoon characters for number counting and identification, and thus allowed children to engage in imaginative play. Ultimately, the findings in Starling's (2018) study revealed that teachers modified the Method according to factors such as their personal beliefs of how children should learn and further their development, as well as experiences rooted in previous teacher experiences, and social factors such as a lack of resources.

In 2020, Siswanto and Kuswandono, researched the psycho-social factors contributing to the construction of the Montessori teachers' identity, and the impact these factors have on the practices that teachers adopt. Eight participants were interviewed from two schools in Yogyakarta, Indonesia, and their classroom practice was observed over the course of two

days. The findings in this study showed that the teachers implemented the philosophical principles faithfully in their practice. For example, the practice as freedom of choice and movement was found to be used by all the teachers. The participants in this study asserted that they have internalised the philosophical principles underpinning the Method into their personal convictions, values and beliefs. However, the study also revealed that some of the practices related to the Method were modified by the teachers due to parental concerns and complaints. One such modification was the adoption of assessment notebooks for learners, as proof of students' academic progress when requested from parents. The use of assessment notebooks is not a common practice in the Montessori Method, since Maria Montessori in her publications recommends that children should develop inner motivation and a feeling of self-worth due to solving problems on their own, by use of the traditionally crafted Montessori materials.

Siswanto and Kuswandono's (2020) research on teachers' understanding and modification of the Method in their practice is consistent with an earlier study conducted by Ruto-Korir and Lubbe-De Beer (2012). Lubbe-De Beer, a South African researcher and Ruto-Korir, a Kenyan researcher examined four teachers, teaching preschool children in Kenya. Findings from this study showed that the teachers agreed strongly with the Montessori philosophical principles which they internalised during their training. However, during observations of the teachers it was found that the classes lacked the full array of Montessori authentic materials; children's freedom to work with the materials for as long as they wished was absent; and individual instruction was substituted with activities presented collectively. These practice modifications were confirmed by the teachers when interviewed. The teachers asserted that one major social factor which influenced them to modify the Montessori practices and to adopt a more traditional schooling approach, were time constraints and parents' demands that teachers manage the schooling time more effectively on activities such as writing, language, and mathematics to prepare the children for primary school. To satisfy these demands the teachers spent more time working on notebook associated activities rather than using the limited available Montessori materials.

Thus, both studies show that while teachers may internalise the principles of the Montessori Method and may want to implement them in practice, social factors such as parental demands and the pressure to meet certain milestones influence the teachers' convictions, which in turn will affect their classroom practice.

Overall, one can conclude based on the studies reviewed above that the modifications of the Montessori Method are not only evident in the early 1990's but that it persists to the present. Although research has not yet been conducted on the impact of such modifications on children it can be argued that such modifications will have a negative impact on their experience of a Montessori education. Quite importantly, the literature pointed to various psycho-social factors impeding the implementation of high-fidelity Montessori practices by teachers. The teachers' personal beliefs, experiences, disagreement with the Montessori philosophical principles, as well as social circumstances are factors which confound the implementation of practices which are congruent with Montessori's philosophy and recommendations. In addition, factors such as a lack of rigorous teacher training lead to a poor comprehension of this Method's philosophical tenets, thus resulting in an inconsistent Method implementation by teachers. Thus, in view of these observations, it is essential to undertake a study exploring in a deeper way the teachers' ideas which may influence their understanding and adoption of the philosophical tenets of Montessori and to see how their beliefs have an impact on their classroom practices.

2.9 Conclusion

This chapter has provided a review of literature pertinent to Montessori Education. First an overview of what constitutes the Montessori Method of education and Maria Montessori's theory of development was discussed, followed by an overview of the Montessori education locally and internationally. A comprehensive discussion was provided with regards to the five authentic practices associated with Montessori education as derived from Maria Montessori's writings and the South African Montessori Association (SAMA), which serve as the rationale for the current study. A review of literature assessing the teachers' understanding of the Method and their role in the Method was then explored, and this was

followed by a discussion of the most common Method implementation and modifications, and the psycho-social factors which may influence teachers' modifications of the Method. In the following chapter I provide an exposition of the theoretical framework chosen to explain the teachers' understanding, adoption and implementation of their practices in this study.

CHAPTER THREE: THEORETHICAL FRAMEWORK

3.1 Introduction

Although Montessori's theory of development may be interpreted as incorporating constructivism, it does not provide an account of how the individual would construct knowledge. To address this shortcoming, this chapter will consist of a relatively concise exposition of Vygotsky and Piaget's constructivist theories of development. The framework developed through the co-ordination of the insights of Vygotsky and Piaget, will be used to try and explain how the teachers in this study constructed their understanding of Montessori and how these 're-constructions' (if any) of her ideas are implemented in their practice.

3.2 Vygotsky's Cultural-Historical Theory of the Development of Higher Mental Functions

Vygotsky's Cultural-Historical theory starts from the premise that the influences of the social environment and culture are crucial for individuals' development and learning. Vygotsky's (1981) theory proceeds from a distinction between elementary and higher mental functions. The elementary mental functions such as attention, perception, memory and so on, are functions provided by human biology. However, he argues, these elementary mental functions are transformed into higher mental functions through the intervention of social forces (Vygotsky, 1980; 1981). More specifically he contends, the transformation of elementary into higher functions is mediated through the semiotic and social resources found in the individual's surroundings, and in this regard, he focused specifically on what he called the psychological tools (including signs and symbols) provided by society. For Vygotsky (1980) the most significant sign systems provided by the social world are speech and language, and it is through these sign systems (amongst others) that elementary mental functions are transformed into specifically human, higher mental functions. Quite importantly, Vygotsky (1980) distinguished between the "mediating functions of tools that are externally orientated

and serve as the conductor of human influence on the object of activity and signs that are internally oriented and aimed at mastering oneself" (p. 55). The use of signs and speech thus lead one's development from involuntary elementary functions towards voluntary, higher intellectual functions (Vygotsky et al., 1994). The mediated, involuntary-to-voluntary self-regulated action in the child's development through signs is evident in Vygotsky's et al. (1994, p. 170) words: "[i]f at the beginning of development there stands the act, independent of the world, then at the end of it there stands the world which becomes the act, the world which makes man's action free." In summary, the higher mental functions originate in the synthesis of action and speech in the individual's activity, resulting in functions that are guided by meaning.

In view of the significance of the social in Vygotsky's account of the development of higher mental functions he stated (Vygotsky quoted by Miller, 2011, p. 27):

> . . . every function in the cultural development of the child appears on the stage twice, in two forms – at first as social, then as psychological; at first as a form of cooperation between people, as a group, an intermental category, then as a means of individual behaviour, as an intramental category. This is the general law for the construction of all higher mental functions.

This 'general genetic law of cultural development' clearly shows how, for Vygotsky, the social and cultural world creates the individual's higher mental functions.

Given the significance Vygotsky (1986) attached to speech (and language) in the development of thinking, Vygotsky investigated how the relationship between speech and thinking develops in the individual over time and showed that there were four major stages in this development: the primitive stage, the stage of practical intelligence, the stage of using external symbolic means to solve internal problems, and finally, the stage of internalisation. In addition, as part of this investigation, Vygotsky found that children's concepts or word meanings also evolve over time. More specifically, concepts developed in a stage-like manner from pre-concepts, to pseudo-concepts, and eventually to true concepts. In this analysis of the development of concepts, Vygotsky (1986) focused further on the development of what he called systematic or scientific which he differentiated from spontaneous or everyday

concepts. According to him, there are important differences between scientific and spontaneous concepts. The spontaneous concepts are unsystematic, concrete in nature, and tied to everyday experience. In contrast, scientific concepts are systematic, abstract, and linked to formal instruction. Notwithstanding their differences Vygotsky believed that the development of these concepts is interrelated – a child must have an everyday concept to be able to grasp the related scientific concept.

Although it is not a significant concept in Vygotsky's overall work, it is nonetheless important to mention the often-misunderstood notion of the Zone of Proximal Development (ZPD) proposed by Vygotsky. Proceeding from the view that different higher mental functions do not all develop at the same time, he drew a distinction between those functions which have already matured in the individual, and those which are in the process of developing. He then stated that (Vygotsky quoted by Miller, 2011, p. 125, emphasis added):

> … [t]he development of scientific concepts begins in the domain of conscious awareness and volition. It grows downward into the domain of the concrete, into the domain of personal experience. In contrast, the development of spontaneous concepts begins in the domain of the concrete and the empirical. It moves towards the higher characteristics of concepts, toward conscious awareness and volition. The link between these two lines of development reflects their true nature. This is the link between the zone of proximal development and actual development.

To explicate further the nature of the ZPD, Vygotsky then said (Vygotsky quoted by van der Veer, 2007, p. 81):

> The zone of proximal development of the child is the distance between the level of his actual development, established with the help of problems independently solved, and the level of the child's possible development, established with the help of problems solved by the child under the guidance of adults or in cooperation with his more intelligent partners.

In this definition Vygotsky identifies two levels in the zone of proximal development and these levels establish the boundaries of the space within which spontaneous and scientific concepts

will interact and develop. The first level is "the actual level of development" which indicates the problems the child can solve independently, and for Vygotsky "… is determined by the functions that have already matured, the fruits of development" (Vygotsky quoted by van der Veer, 2007, p. 81). The second level is the level of the child's "possible development" which is established by the problems the child can solve with help and consist of "… functions that have not yet matured, but are in the process of maturing, functions that mature tomorrow, that now are still in their embryonic form; functions that cannot be called the fruits of development, but the buds of development" (Vygotsky quoted by van der Veer, 2007, p. 81). Based on his belief in the presence of these maturing functions Vygotsky then argued that instruction[2] should focus on the child's maturing functions and that it should 'lead development'.

The strength of Vygotsky's explanation of development resides in his emphasis on the role of the social in the development of the individual and the concomitant construction of knowledge. However, Vygotsky did not provide an adequate account of the process of internalisation mentioned above. To address this shortcoming, it is necessary to turn to Piaget's explanation of the construction of knowledge.

3.3 Piaget's Constructivist Theory of the Development of Cognition

To explain the development of knowledge in the individual, Piaget (1969) proposed a theory of psychological constructivism consisting of processes (or 'mechanisms') that are responsible for the construction of knowledge, and further identified the stages of the development of such knowledge in the individual (which will not be discussed in this exposition).

[2] It should be noted that Vygotsky used the Russian word "obuchenie" in this context which is properly understood to mean "instruction". Early translators of Vygotsky's writings translated the word as "learning" which led to the absurd statement that "learning leads development" (see Vygotsky, 1978, Chapter 6) when Vygotsky clearly meant "instruction leads development" (see Volume 1, *The Collected Works of L.S. Vygotsky*). Furthermore, Vygotsky also used the word "instruction" and not "mediation" for the activity which teachers engage in at school. He used the word "mediation": only in relation to the sign-mediated nature of higher mental functions.

The processes involved in the construction of knowledge consist of invariant functions on the one hand, and schemes/structures whose inter-relationships change over time, on the other. The invariant functions include organisation and adaptation. For Piaget (1985), organisation (or co-ordination) is a function which enables the individual to organise or co-ordinate schemes into coherent structures. In other words, it is a function which helps the individual to bring together parts (i.e., schemes) to form larger wholes (i.e., structures). The scheme is a basic pattern of organized or co-ordinated behaviour and is the basic building block for the construction over time of ever more complex structures. The nature of the interrelationships between schemes changes over time and for Piaget, it follows a stage-like progression in which the individual constructs increasingly complex structures and concomitantly, more complex forms of knowledge.

The second invariant function Piaget proposed was adaptation. This function consists of two complementary processes, viz., assimilation and accommodation (Piaget, 1969). The process of assimilation may be understood as a process of 'fitting' environmental stimuli into existing schemes and structures (i.e., the individual's existing cognitive organisation). Accommodation may be seen as the opposite process which involves "adjusting" the schemes and structures to 'fit' environmental stimuli and demands. When the two processes are in balance the individual has reached a state of equilibrium where the currently existing schemes and structures are in balance with each other, and also in balance with the environment. However, at some point, when there is a change in either the individual or the environment, the individual experiences a disequilibrium which must be corrected to restore his/her equilibrium. This 'correction' leads to a new and 'higher' level of equilibrium which, in Piaget's (1985) view, signifies a more advanced and complex level of knowledge and understanding in the individual. The entire process described above is called equilibration and may be seen as the 'driving force' or 'generative mechanism' for the construction of knowledge according to Piaget.

In Piaget's understanding, there are two types of disequilibria: external disequilibria which result from the difficulty the individual experiences to apply their existing schemes and mental operations to external stimuli, and internal disequilibria where the individual has

difficulty in creating the necessary schemes and operations themselves. Piaget (in Boom, 2009) identified three different ways in which the individual reacts to these disequilibria: the Alpha Reaction (or 'compensation') which involves either disregarding whatever created the disturbance or distorting environmental stimuli and information 'to fit' into the existing organisation of mental schemes and structures and thereby, maintain the existing equilibrium. The Beta Reaction involves a modification of schemes and structures to accommodate whatever created the disturbance, and the Gamma Reaction involves a re-organisation of the schemes and structures. With the Gamma Reaction the individual has now constructed a new cognitive structure.

3.4 Conclusion

As indicated earlier in this chapter, a complete account of the construction of knowledge and understanding in the individual requires a co-ordination of the theories of Vygotsky and Piaget. To this end, an exposition of the most essential aspects of both theories was provided and now it only remains to show why the insights of the theories needs to be 'co-ordinated' to provide a comprehensive theoretical framework to explain the teachers' understanding and implementation of the Montessori Method.

From the exposition of the theories, it will be evident that Vygotsky identifies the external/social factors which leads to the construction of knowledge, while Piaget identifies the internal mechanisms which the individual uses to construct knowledge. Thus, to provide a 'complete' explanation of the construction of knowledge it is necessary 'to bring together' or 'co-ordinate' the different insights of these theorists and it is this 'co-ordination' which will provide the framework for explaining the teachers' understanding and implementation of the Montessori Method.

CHAPTER FOUR: RESEARCH DESIGN AND METHOD

4.1 Introduction

This chapter presents the research design and methods adopted for the study. In this chapter, the reasons relating to the choice of research design and methods will be discussed. This includes, the research paradigm, the chosen research methods and design, and research sampling. Furthermore, it will discuss the chosen data collection methods and data analysis. Lastly, this chapter will outline the processes the researcher adopted to ensure the trustworthiness of the study, as well as the ethical considerations employed.

4.2 Research Paradigm

A research paradigm is a set of "philosophical assumptions [and beliefs] about the nature of the world (ontology) and how we can understand it (epistemology), assumptions that tend to be shared by [individuals] working in a specific field or tradition" (Maxwell, 2008, p. 224). The research approach thus reflects the assumptions and beliefs that substantiate the study and the nature of inquiry too (Guba & Lincoln, 1994; McMillan & Schumacher, 1997; 2016). This research study adopted an interpretative paradigm. Moustakas (1994) postulates that the interpretative paradigm enables researchers to recognise the factors such as participants' experiences, perspectives in the researched context, as presented through the participants' views and ideas, which ultimately enable the researcher to describe the reality and consequently, to treat the context and the research participants as unique. Williams (1995, p. 38) endorses this view by asserting that "researchers place the emphasis on the thorough exploration of the influence of the context within which the research takes place." As Benton and Craib (2010, p. 10) contend, "interpretive research ties in with constructivism, as it assumes that reality is socially constructed", since the researcher and the participants acknowledge the environmental impact in a research study. The interpretivist paradigm supports more focused research; in other words, it focuses on the topic, thus abstaining from

generalisations (Moustakas, 1994). In order to examine the Montessori Method as implemented by teachers in six schools in Gauteng, the adoption of the interpretivist paradigm provides the researcher with a deeper insight into the teachers' understanding of the Montessori Method, their role in the Method, the way the teachers adopted the Montessori practices within the selected schools, and the factors bearing upon teachers to modify the Method.

4.3 Research Method

A qualitative research method "focuses on individuals' lived experiences as they are presented in thoughts, ideas, feelings, attitudes and perceptions" (Ohman, 2005, p. 273). Additionally, it emphasises social interactions and behaviours as they occur naturally in the researched context. A qualitative method aims to generate new knowledge by exploring the quality, not the quantity of the phenomenon based on the participants' experiences and beliefs. The qualitative method is inductive and interpretative; therefore, it allows for flexibility throughout the process of research (Ohman, 2005; Kumar, 2018). Namely, researches who utilise qualitative approaches, seek to understand the meaning and understanding of particular phenomena participants have constructed, how the participants make sense of and describe their experiences.

The present study followed a qualitative research method that is closely linked to the interpretivist paradigm, which is subjective. A qualitative method was utilised to allow the researcher to engage in "detailed . . . observation [and a] deep description of individuals, events and settings" of the researched phenomena (Scott & Morrison, 2006, p. 183). McMillan and Schumacher (2016) justify the use of qualitative method by stating that this type of research can contribute to both theory and practice, i.e., "that qualitative studies provide a detailed description and analysis of a particular practice, process or event" (p. 230).

The qualitative method was relevant for the present study, because the observed practices employed by teachers in the Montessori classrooms and their attitudes, ideas as presented through their behaviours provided me with details which allow for thick description (Maxwell,

2013). Thus, the qualitative research method assisted me to capture the complexity of the different situations in the classroom, as well as to position myself in the study and reflect on my own background; thus, it prepared me to confront bias in the study without unintentionally obscuring the findings.

4.4 Research Design: Multiple Case Study

Research design as defined by Ragin (1994, p. 191) is:

> [a] plan for collecting and analysing evidence that will make it possible for the researcher to answer the questions posed. The research design touches all aspects of the research, from data collection to the selection of the techniques of data analysis.

As a design framework for this qualitative study, I have chosen the multiple case design. The multiple case design allows for a real life-bounded system exploration through in-depth and detailed data collection, by use of multiple sources for information gathering (Creswell, 2013). The multiple case study design relies on multiple sources of evidence that enables data converging in a triangulated manner (Yin, 2009). This design also prompts a broad exploration of the research question, as well as theoretical evolution that enables the researcher to gain an understanding and meaning of the similarities and differences between the studied multiple cases (Merriam, 2002). Therefore, the researcher is enabled to understand the behavioural conditions of the bounded system, and to address the complex issues that needed in-depth exploration based on the participants' interpretations.

I have chosen the multiple case study design since the multi-cases are 'an umbrella of a collection of cases' of the studied phenomenon (Stake, 2013). To gain an understanding of the 'quintain' in this case the Montessori Method as understood, adopted and implemented by teachers in the Montessori schools, studying this single case, embedded within cases, sites, or manifestations allowed me to gain a deeper insight in the operation of the cases (Stake, 2013). 14 teachers from six schools that describe themselves as Montessori schools were purposefully selected. Each teacher was investigated to see how they follow the Montessori

Method; the authentic implementation of the Montessori Method, the use of authentic Montessori materials, the extent to which they adopt the Montessori principles and philosophy, and finally, the extent to which they adopt the mixed age-range (3-6 years) in their classrooms recommended by Maria Montessori. Due to the choice of a case study design the findings were precluded from being generalised since the main aim was to understand how the theory and philosophy of Montessori education is implemented and practised by teachers, and whether these teachers adopted the authentic Montessori principles and practices.

4.5 Research Sampling

Research sampling is of crucial importance in qualitative research and, as such, it consists of "sample size and sampling designs concerns" (Omona, 2013, p. 169). These help the researcher to select well-matched sample, designs, strategies and sample sizes harmonious with the purpose of the envisaged research (Omona, 2013).

The sample size for this study are 14 pre-primary Montessori teachers from six private Montessori schools in Gauteng (see table 4.1 below). The present study adopted both census and purposive sampling methods, to obtain data. Since the sample size was limited to 14 teachers from six Montessori schools, a census sampling technique was used to obtain all the teachers. The census sampling technique was used because the sample size of teachers is small, and therefore all teachers were interviewed and observed with their permission to obtain data; two to three pre-primary teachers from each school, teaching in multi age (3-6 yrs.) Montessori classrooms were purposively selected, to participate in the interviews and classroom observations. According to Omona (2013, p. 179), purposeful sampling is adopted when the researcher selects individuals and settings "when they are 'information rich' and can maximise the understanding of the phenomenon", as well as to their relevance to the researched topic. A parallel sampling design was employed for this study. This design, according to Onwuegbuzie and Leech (2007), best coincides when the nature of the study's research design is a multiple cases design, since the researcher's goal is to contrast and compare the cases chosen. Thus, all cases can be treated as a whole where their 'voices' can

be compared to the other cases in order to understand the researched phenomenon, that in turn enables data saturation through the use of multiple data collection techniques (Onwuegbuzie & Leech, 2007; Omona, 2013).

The sample size of 14 teachers was considered adequate to generate the required data for this qualitative study. Because a larger sample of participants (than this one) does not necessarily lead to more information as "one occurrence of data, or a code, is all that is necessary to ensure that it becomes part of the analysis framework [as well as to ensure an] understanding of the process behind the topic" (Mason, 2010, p. 1). Mason (2010) infers that smaller samples are preferred, as the analysis of a large sample can be time consuming and unrealistic in most cases. Charmaz (in Mason, 2010), also maintains that saturation may be achieved more swiftly using small samples instead of large samples.

Table 4. 1 Demographic Information of Participants

Teacher	Gender	Age	Teaching Experience	Montessori Training	Montessori Qualifications	Other Teaching Qualifications
1	Female	51	26 Years	Yes	AMI 3-6	No
2	Female	41	20 Years	Yes	MACTE 3-6 NAMC 6-9	Yes
3	Male	35	6 Years	Yes	MONTESSORI CAMPUS	No
4	Female	66	19 Years	Yes	MONTESSORI AFRICA	No
5	Female	39	6 Years	Yes	MACTE 3-6	Yes
6	Female	32	2 Years	In Progress	MCSA	No
7	Female	39	10 Years	Yes	MCSA	Yes
8	Female	32	8 Years	Yes	N/A	Yes
9	Female	30	2 ½ Years	Yes	N/A	Yes
10	Female	38	20 Years	Yes	MONTESSORI AFRICA 3-6	No
11	Female	35	5 Months	Yes	MCSA 3-6	No
12	Female	30	6 Years	Yes	MACTE 3-9	No
13	Female	24	4 Years	Yes	MACTE 3-6	No
14	Female	24	6 Months	In Progress	MCSA	No

The sample comprised 13 female and one male Montessori pre-primary teachers, with age ranges from 24 years to 66 years old. The participants' teaching experience as a Montessori teacher ranged from 5 months to 26 years. Twelve of the participants had been trained in the Montessori Method and two participants were currently in training. While 12 participants hold a Montessori qualification and received training from various Montessori training centres, two participants were trained at the school premises by Montessori trainers and do not hold any Montessori qualification. Only five participants, held other educational qualification, apart from the Montessori training.

4.6 Data Collection Methods

Data collection methods are defined as the "tools, techniques, or procedures used to generate data" (Jackson, Drummond & Camara, 2007, p. 25). Based on the research strategy chosen, methods such as semi-structured interviews, and non-participant observations as data collection techniques were employed (Merriam, 2002). These techniques added strength to this qualitative study as they provided an opportunity for the collection of rich, relevant data and insight on teachers understanding and implementation of the Montessori Method in the schools selected.

4.6.1 Semi-Structured Interviews

Semi- structured interviews are defined by Kvale and Brinkman (2015, p. 6) as "interview with the purpose of obtaining descriptions of the life world of the interviewee in order to interpret the meaning of the described phenomena."

As a data collection method in this study, semi-structured interviews were used, since it employs elements from both structured and unstructured interviews, and "encourages the interviewees to respond open-endedly and to answer a question in his or her own terms", while still adhering to the questions posed (Scott & Morison, 2006, p. 133). The interviews occurred in two stages. First, ten biographical questions were sent via email to each participant before the commencement of the observations (see Appendix B). These questions allowed flexibility for the participants to answer on their own terms. Further this allowed me

to better access the participants' professional background and their Montessori teaching experience. In the second stage, on the last day after the finalisation of the observations, I used an interview guide with scheduled questions to deeper probe the participants' understanding in their responses (see Appendix A). The interview questions were structured to correspond to the study's questions and objectives. Probing questions were used during the interview to elicit more details and ideas that emerged during the interview. The interviews were audio recorded with permission from the participants, and these were then transcribed and analysed. Prior to the analysis the transcribed interviews were sent to the participants to be verified. Each research participant was interviewed for at least 45 minutes per session but did not exceed 60 minutes. In total, 14 semi structured interviews were conducted in six Montessori schools in Gauteng with 14 Montessori pre-primary teachers. The semi-structured interviews were conducted between 30th March 2022 and 2nd July 2022. The interviews were conducted at location, date and time convenient for the participants, as and according to their availability.

4.6.2 Observation

Non-participant observation is defined by Liu and Maitilis (2010), as a data collection method where the researcher's aim is to directly gain an understanding of a given phenomenon by observing the interactions, events and activities happening in the phenomenon's natural setting.

Observation as a method, allows for "a first-hand encounter with the phenomenon of interest rather than a second-hand obtained in an interview" (Merriam, 2002, p. 13). I opted for non-participant observation, as I was detached and not involved in the activities in the setting and this allowed me to gather first-hand information about the interactions and processes in the environment as they naturally unfolded. I recorded the field notes from the observations in a journal and these observations became a part of the analysed data. The teachers' practices and classroom dynamics were observed during the classrooms work period for three hours per day, or as it was adopted and implemented by the school, for the duration of three days per teacher (see Appendix D). The observations commenced on 8th March 2022, and finished on 2nd July 2022. To prevent observer bias, a recording device was used with permission from

the participants, where applicable, to cross-check the observation notes with the audio recordings.

4.6.3 Document Analysis

Document analysis as qualitative research method is defined by Bowen (2009, p. 27), as "a systematic procedure for reviewing or evaluating documents, both printed and electronic material". Like other methods in qualitative studies, document analysis necessitates the interpretations and analysis of data, for meaning and understanding to be developed (Corbin & Strauss, 2014).

Documents as a data source are beneficial because "… they already exist in the situation; they do not intrude upon or alter the setting … nor do they depend upon the whims of human beings" (Merriam, 2002, p. 13). The documents such as the school prospectus, school newsletters, school policies, teacher diaries (where available), lesson plans, observations record keeping were examined for authenticity, credibility, and meaningfulness as a supplement to the other data methods used (Ary et al., 2018). Some of the documents were acquired from the schools' websites, while others were obtained, with permission, directly from the principals and teachers.

The data from interviews was collected via internet video conferencing platforms and face to face in the schools after the completion of the observations. While the data from the interviews was collected in few instances via online means, observations were conducted through my physical presence in the classrooms.

4.7 Data Analysis

Corbin and Strauss (2014) define data analysis as "the process of breaking down, examining, comparing, conceptualizing, and categorizing data" (p. 57). Ngulube (2015, p. 131) views the purpose of data analysis as "transforming raw data by searching, evaluating, recognising, coding, mapping, exploring and describing patterns, trends, themes and categories in the raw data, in order to interpret them and provide their underlying meanings." A thematic analysis

was employed to analyse the data generated through the interview transcripts, observations and the interrogated documents. Maguire and Delahunt (2017) define thematic analysis as "the process of identifying patterns or themes within qualitative data" (p. 352). The goals of thematic analysis are to identify themes in the data that are important and that can address the study's research questions. To code and to identify prevalent themes from the data collected for this study, Braun and Clarke's (2006) framework was used. They outline the strategy for carrying out the thematic analysis in terms of six steps or phases (see table 4.2 below). It is important to note that thematic analysis it is not a linear process, as the researcher constantly moves between the six phases proposed by Braun and Clarke (2006). This process helps the researcher to identify and refine themes that are coherent and relate to the study's research questions (Braun & Clarke, 2006).

Table 4. 2 Braun and Clarke's (2006, p. 87) guide for thematic analysis

Steps	**Data Analysis Process**
Step 1. Familiarizing with the data	Transcribing the interviews, observation notes, and documents; read and reread through; writing and noting ideas.
Step 2. Generating initial codes	Systematically coding interesting features across the collected data; ordering and comparing data relevant to each code.
Step 3. Searching for themes	Combining codes into potential themes, by combining all relevant data
Step 4. Reviewing themes	Reviewing themes in relation with the generated codes (level 1 and 2); generating 'thematic map'.
Step 5. Defining themes	Continuous analysis of each theme; refining the themes; generating names by defining and naming each theme.
Step 6. Writing the report	Final analysis; selection of extracts; relating the analysis to the research questions and the reviewed literature; producing analysis report.

Step One - Familiarizing with the Data

In the first phase, I read and re-read repeatedly the transcribed interviews, the field observational notes, in order to familiarize myself with the collected data – in line with Braun and Clarke's (2006) proposed framework. While I was reading through the documents, I was taking notes and jotting down early impressions. Firstly, it was important for me to familiarize myself with the entire data collected, before analysing individual items. I started reading through the transcribed interviews and analysed interview transcript one by one. The same process followed with the notes from the observations and the acquired documents.

Step Two - Generating Initial Codes

At this phase, I started to look for initial codes by organizing the data systematically. I reduced the data into small chunks with meaning connected to the research questions. Since I have not started the coding phase with pre-set codes, I coded the data by modifying and developing codes as I worked through the data. In other words, I used the process of open coding (Maguire & Delahunt, 2017). I worked through each interview transcript and coded the text that seemed interesting and relevant to the research questions. I repeated the same process with the filed notes from the observations and teachers' documents. As I worked through the transcripts I moved back and forth through the text in order to compare codes. During this process new codes emerged and the existing codes were modified. I did this manually, highlighting the relevant text from each interview transcript, followed by the observation field notes and teachers' documents. The preliminary codes are represented in Appendices C and D, followed by the table of final codes (see Appendix F).

Step Three - Searching and Generating Themes

Theme, as defined earlier "is a pattern that captures something significant or interesting about the data and/or research question" (Maguire & Delahunt, 2017, p. 356). In this step or phase of data analysis, I reviewed and examined all codes. I looked at which codes can form a theme. This was repeated with the transcribed interviews, observation notes, followed by the analysed documents. For example, I had few initial codes corresponding to the teachers' understanding of the Montessori Method. I combined these codes to form an initial theme called "Child-led". Lastly, at this step, I organised the codes into a broader theme "Child-

Centred Method" corresponding to the research questions or study as a whole (see Appendix F). Figure 4.1 below shows the preliminary themes, drawn at this stage of the analysis.

Step Four - Reviewing the Themes

During this step I reviewed and modified the themes that were developed during the previous step. This was done after I have combined all the data relevant to each theme (Braun & Clarkes, 2006).

The preliminary themes were then refined. Initially there were 24 themes (see fig. 4.1 below), but upon closer inspection some of the themes were either not corresponding the research study objectives or were overarching themes, falling under one general theme.

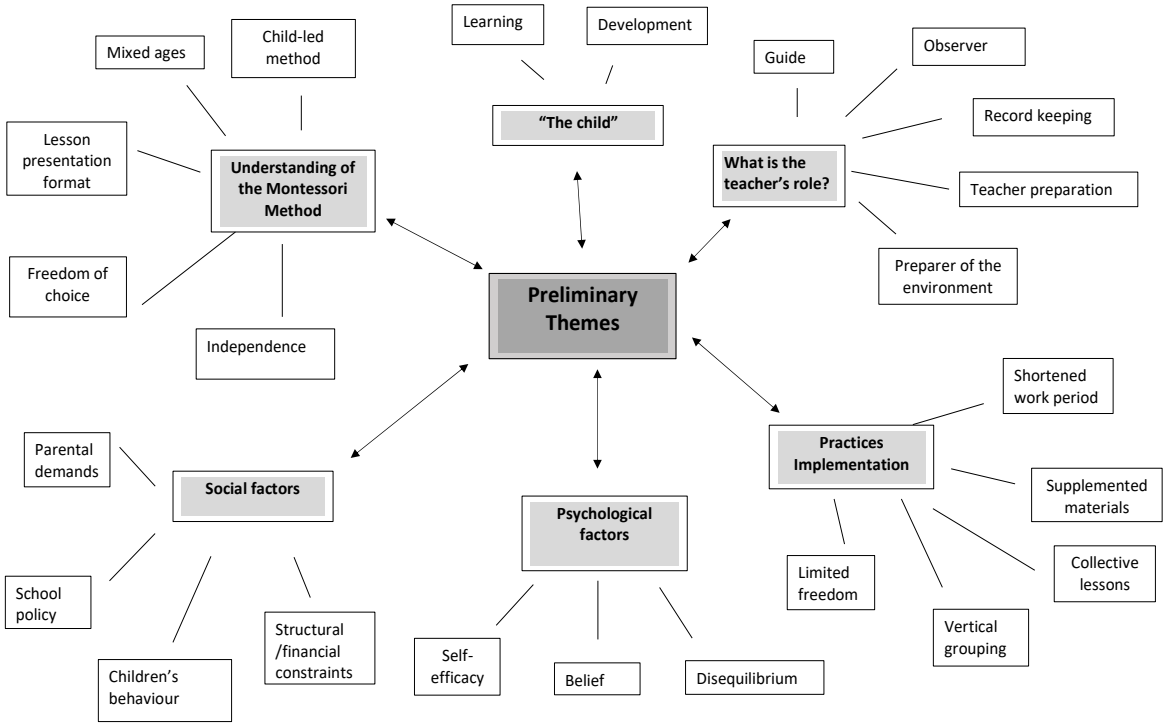


Figure 4.1 Thematic map outlining the preliminary themes

Step Five - Defining and Naming Themes

At this step, I refined and named the final themes. The initial 24 themes were succinctly defined and allocated into 17 themes that closely correspond to the study's questions and the study as a whole. The final themes are represented as a map containing the final outline of themes below (see figure 4.2 below and Appendix F).

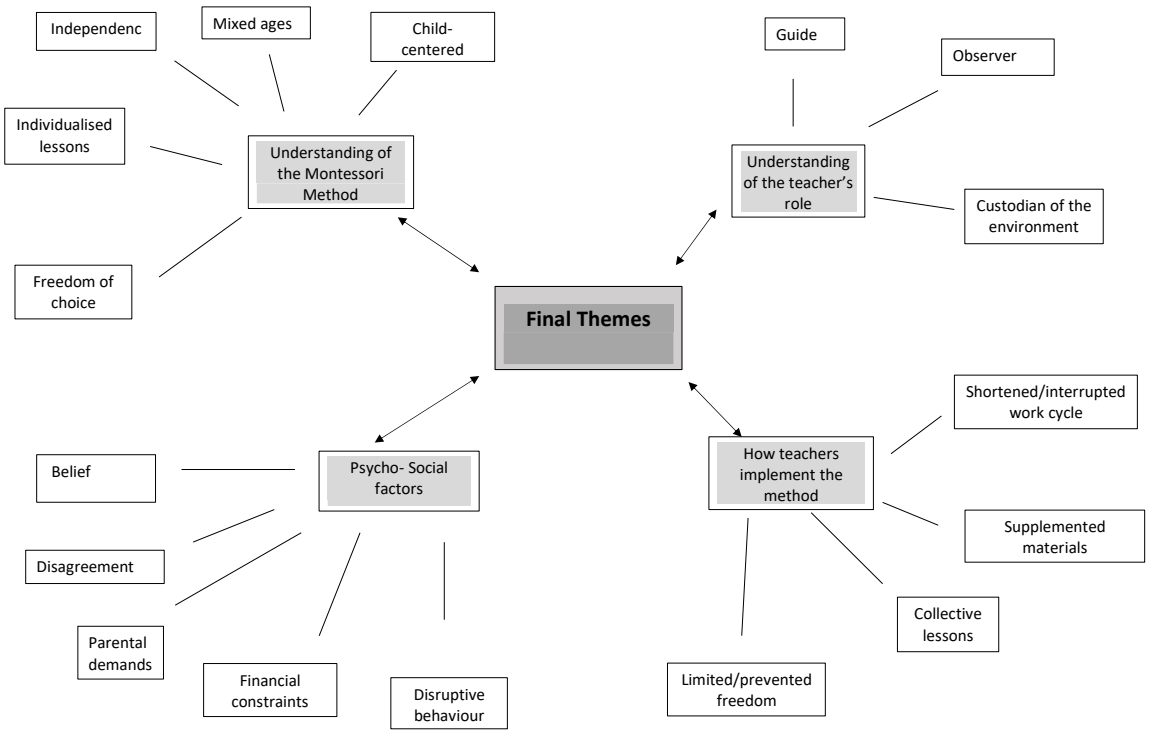


Figure 4. 2 Thematic map outlining the final themes

Step Six - Writing Up

Once the themes were named and clearly defined, they were grouped accordingly, corresponding to the study's questions. A report of the analysed data was produced. The findings were represented under four sections addressing each theme coherently. I have supported the findings with examples of interview excerpts, and observational journal entries. Lastly, the findings were discussed and connected with the reviewed literature and theoretical framework.

4.8 Trustworthiness of Qualitative Data

In order to ensure validity and reliability of the study's findings for future practice, procedures reflecting trustworthiness were followed. Trustworthiness, according to Lincoln and Guba (1985) addresses: credibility, dependability, transferability and conformability. The purpose of trustworthiness procedures in qualitative studies is for the researcher to provide evidence of the study's findings that are apposite to the studied cases.

4.8.1 Credibility

The first criterion of trustworthiness is credibility. This criterion refers to the accuracy and reality of the presented information. The credibility of qualitative data is ensured in various ways: one such way is member checking. Member checking, according to Lincoln and Guba (1985), is the crucial step towards ensuring credibility of a study's findings. Member checking was employed where the participants viewed the interpretation of their written interviews and descriptions from the participant section. The participants checked for factual errors, and provided a needed summary, as well as checked the adequacy of the analysis. Similarly, the principals were given the draft with the data descriptions to enhance credibility.

4.8.2 Dependability

The second criterion of trustworthiness is dependability. Stringer (2008) defines dependability as "detailed description of the research process" (p. 53). Dependability in this study was assured by tracing the study's operations such as data collection and analysis to ensure consistency and dependability of the findings. To eliminate inconsistency, it is "incumbent on the researcher to document the procedures and demonstrate that coding schemes and categories have been used consistently" (Bloomberg & Volpe, 2006, p. 86). In addition, to ensure dependability, an audit trail was created for a thorough and detailed explanation of the manner in which data was collected and analysed to provide trustworthiness. Lincoln and Guba (1982) encourage the use of an audit trail by asserting that "with creation of an audit trail in effect creates a data bank of oral and documentary history for future researchers to re-analyse in light of new questions" (p. 8).

4.8.3 Transferability

The third criterion of trustworthiness is transferability. In qualitative research, transferability is the aspect that relates to the external validity of the study. Stringer (2007) posits that transferability refers to the "possibility of applying the outcomes of the study to other contexts" (p. 57). Transferability rather than generalizability is of greater importance in a study where the sample is small. It also refers to the reader's determination of the extent that the findings are applicable to similar settings that are not identical (Merriam, 2002). In the present study, transferability was ensured, by providing a rich descriptive detail for each case and context, data collection, and data analysis (Merriam, 2002; Lincoln & Guba, 1982). Since qualitative research applies best in the settings it was carried out, Lincoln and Guba (1985) assert that the researcher can only provide a "the thick description necessary to enable someone interested in making transfer to reach a conclusion about whether transfer can be contemplated as a possibility" (p. 316).

4.8.4 Confirmability

The last criterion of trustworthiness is conformability. Conformability in qualitative studies refers to the researcher's ability to demonstrate that the findings of the study represent the participants' responses and are a result of the research, and not of the researcher's viewpoints and biases. Stringer (2007) states that to ensure "confirmability— researchers must be able to confirm that the evidence and the procedures described actually took place" (pp. 57-59). To this, Lincoln and Guba (1985) add that the audit trail is the ultimate technique to establish confirmability. Stringer (2007) also supports the use of an audit trail because it "enables an observer to view the data collected, instruments, field notes, tapes, journals, or other artifacts related to the study" (p. 59). An audit trail thus ensured the trustworthiness of the research and confirmed the authenticity of this research study.

4.9 Ethical Considerations

All ethical protocols were observed. The ethical clearance for this study was obtained from the Wits School of Education Ethics Research Committee. Permission to conduct the research in the respective schools, and to use documentation provided by the schools, was obtained

from the Schools' Governing Bodies. Each school involved in the research was informed of the purposes of this research (see Appendix G). Participants were provided with the researcher's proof of registration as a student and the ethical clearance document (see Appendix J). Upon the completion of the research, the participants who were interested, were provided with the final research. Voluntary participation as an ethical procedure was ensured by issuing consent forms to the research participants, which they were required to sign to indicate that they had agreed to participate in the study (see Appendices H and I). Two consent forms were sent to the participants: one for participation (Appendix H) and a second form for consent for the interviews and the audio recording of the interviews (see Appendix I). Due to COVID-19, the consent forms were sent and signed electronically.

The participants were notified that their participation in this research is voluntary, with the option to withdraw from their participation at any point, without negative consequences from this. The participants were made aware that they do not need to answer the questions if it makes them uncomfortable to do so. To guarantee the anonymity of the participants in this study, codes were used, and their anonymity was not compromised even when the information was shared with the supervisors of the study. Furthermore, the participants were made aware that recordings and research data from this study is kept securely in a locked cabinet and in a password protected computer, with restricted access to the researcher and the research supervisors.

4.10 Conclusion

This chapter presented the research design and methods adopted for the study. This qualitative study was designed aiming to examine the teachers practices in the Montessori schools - to determine how teachers understand, adopt and implement the Method. With use of multiple case study design, this research study provided with a rich descriptive information drawn from the participant responses and events observed. In this chapter, it was outlined and justified the choice of research design, research methods, selection of participants, data analysis and data analysis strategies. Last, this chapter concluded with

discussion of the ethical considerations affecting in this research study. The next chapter will report and present the data and findings emerging from this study.

CHAPTER FIVE: PRESENTATION OF THE DATA FINDINGS

5.1 Introduction

In this chapter the data collected to answer the primary research questions is presented. The findings are divided into four parts: (a) the teachers' understanding of the Montessori Method; (b) the teachers' understanding of their role in the Montessori classroom; (c) how the teachers implement the Montessori Method, and (d) the psycho-social factors which influence the teachers to modify the Montessori Method. Under each of these heading's, themes are identified, discussed, and supported by extensive, verbatim extracts of the teachers' responses.

5.2 Findings on the Teachers' Understanding of the Montessori Method

The first issue which the research addressed was the teachers' understanding of the Montessori Method. Since the teachers' understanding is solely dependent on their subjective interpretations and understanding of the Montessori Method, the themes discussed in this section were generated predominantly from the data obtained from the interviews.

The teachers' who participated in the research shared varied interpretations of their understanding of the Montessori Method, and how particular principles are enacted in practice to aid the child's whole development and learning. The prominent themes which emerged from the teachers' understanding of the Montessori Method include the following: it is a child-centred Method; encourages independence; facilitates freedom; promotes learning; and encourages individualised lessons.

Theme 1: A child - centred method

The theme of the Montessori Method being "a child-centred Method" emerged clearly from the data. This is evident from the transcripts of the teacher interviews which are presented verbatim below:

> *"The Method, is a child led Method, here the teacher has an understanding of the developmental needs of the child and structures her environment accordingly. And also takes into consideration that the child in the preschool classroom is in the absorbent mind phase, the early stage. And, during that stage the more opportunities, experiences, especially sensorial that you offer to the child, the more they are able to construct their understanding of their world. Everything that is done in the classroom, should be done based on an understanding of the child"* (Participant 6).

> *"When Maria Montessori implemented these principles into her work, she didn't just look at the children's' need to just learn education, it is not an educational thing it is taking things from real life aspects and bringing it together and developing a child as a whole so you are not just looking at a child academically, you are looking at them physically, emotionally, cognitively in every aspect, you developing a child as a whole"* (Participant 8).

> *"There are three fundamentals to the Montessori Method. Basically, being the child, we follow the child, the child is most important in Montessori in what we are trying to achieve we follow the child, so the child is most important"* (Participant 11).

> *"You need to follow the sensitive periods; you need to see the sensitive periods of the child and follow the child and start your day with following the child. You cannot take a child who does not like Maths, for instance I have a boy, who is in a sensitive period for language, it hates Maths, it is pointless for me to go and take him for Math's where he will form adversity for Maths, he might be standing by the books, but he likes to write he likes to draw and connect things. There are seven sensitive periods, and we follow that within the child"* (Participant 12).

> *"It is the development of the child, so it is not just come in, everyone is doing the same thing, everyone must cut now, everyone must colour in now, and that*

is what we doing you really allowing them to go through their sensitive periods and you are allowing them to develop the holistic child" (Participant 13).

"What comes to mind when I visualize the Montessori Method, it is very wholesome and it is very considerate to any child and any circumstance or any way of that, it is very broad like it speaks for every single detail. That is how I see it. For me it is also the process, the process to go with the child with each and every step, the whole process of the Montessori way" (Participant 14).

In the interview excerpts above, the most repeated idea in the participants' responses regarding their understanding of the Montessori Method is the focus on the child. It is apparent that for them the Montessori Method is intended to meet the child's individualised developmental needs. Furthermore, they believed that by following the child's developmental sensitivities in an adequately prepared child centred environment, the Method facilitates the child's holistic development on the intellectual, social, emotional, and physical developmental planes.

Theme 2: Encourages Independence

Nurturing the child's development of independence is one of the prime facets of the Montessori Method and was acknowledged as such by the participants. Below are some of the participants' responses in this regard:

"Independence, so in the Montessori environment you try to promote independence for the child. My favourite quote in Montessori her philosophy is, when the children are working and it feels as the teacher does not exist, that is my motto that I try to do. So, to promote independence to do it for themselves" (Participant 12).

"I think for me, that is the understanding of the Method, is for the child to be independent. And that understanding for me is something that stands most … more of the other characteristics of Montessori" (Participant 13).

"Montessori, with the Montessori Method and the philosophy, is because practical life for example is your everyday form of life that you have implemented in your life, so it builds the child in terms of just having that

structure to be able to dress themselves, creating independency making the child more confident in terms of their own self development, and towards the environment" (Participant 8).

"As you know we work mainly one on one with children, and the important thing is to develop the child's independence. So, it is basically, showing them how to work independently" (Participant 4).

"We work towards the independence of the child so helping them becoming more independent becoming that they can do things for themselves. So, the Method that we had applied it helps the child later in term of them being able to do things by themselves. To develop their individuality their independence" (Participant 3).

"That is the principles for independence, to allow the child, I guess it is a human tendency, it is all a human tendency that the child has" (Participant 11).

From the interview transcripts above, it is evident that the participants' understanding is that the Montessori Method promotes and encourages independence. Based on their responses, it is clear that for them the Method helps children to do things for themselves, and to complete tasks independently during lessons without the teacher's assistance. In summary, they believed that by enhancing and developing independence in children, the Montessori Method ultimately aids the child throughout life.

Theme 3: Facilitates freedom

In the Montessori Method freedom of choice is fundamental to the child's holistic development. In terms of the Method children are allowed freely to move around in the classroom and are also given the freedom to choose activities to work on for an extended time.

The participants' responses which were related to this aspect of the Montessori Method are reported below:

"What comes to mind when I visualize the Montessori Method is the first thing is freedom, I cannot think of a better way to explain this curriculum of freedom of expressing yourself in any way. Freedom …. All rounded. I feel like the freedom of choice is important because if the child chooses, then they are in it fully, they want to do it, their drive is there, if they have been asked to do something and they do not want to do it, they are not going to concentrate, they not going to want to do it. It does not come from inside, it is not what they want to do, it is what they have to do and no one wants to do something that they have to do" (Participant 14).

"The one that stands out most (in the Montessori Method) for me, because I feel that they have freedom in everything. I think what's important in freedom of choice is being able to grow in your confidence. For the child to be able to say "ok I am confident enough to choose something" and that is really building their personality, it is building to getting to know themselves" (Participant 13).

"The freedom in the environment is very important, we believe in freedom which allows the children to follow their innate, like their tendencies what they feel like their own interest, because that is where we believe that the child will learn better if they follow those instincts, those innate abilities or tendencies" (Participant 11).

"The freedom of choice is so important. Because the child needs to be self-directed and self-disciplined in their learning for the rest of their life, so if you are dictating to them every single choice that they have to make for the age of three which is ideal place for them to be learning to choose responsibly as far as development is concerned then they are ever going to be able to make choices as someone else is given them approval for, so it is real stumbling of the development of choice making, which is one of the most vital functions of a human being" (Participant 6).

"If we look at Maria Montessori's principles and if we look at how the traditional works, children are given freedom, children are given, so they have to choose the work of their own choice depending on their age group and if we look at children that are being punished in other methods, they tend not to learn feely because they are afraid that they will get punished or embarrassed, and if you look at the Method of not punishing children and have freedom to learn freedom to choose" (Participant 3).

"Freedom of choice is very important! Also, the child has the freedom of choice to work, to complete, if you take away that freedom you are taking away the

> *developmental drive that is pushing them to learn. Freedom of choice is critical whether they would like to work with, who they want to work with, where they want to work, how they want to work. That Is all totally freedom"* (Participant 2).

From the interview data, it is apparent that for the participants the Montessori Method encourages and facilitates freedom. The participants' contended that when children are allowed free choice their innate sense for learning is encouraged. They believed that in this Method children are allowed to freely choose work which guide their learning and development. They indicated further that when children are allowed free choice their confidence and concentration develop because they follow their innate developmental drive to learn. In this process, the teachers further believed, children develop self-regulation and it is therefore crucial for teachers to provide children with many opportunities to exercise their freedom in the classroom.

Theme 4: Promotes learning

Mixed aged groups are fundamental to the Montessori Method. Children are grouped spanning ages from three to six years for the preschool program and continues through elementary and middle school programmes. The reason for having vertically grouped, mixed age groups spanning three years is to promote learning through peer tutoring and collaboration between the different ages.

On the question of their understanding of Montessori's recommendation of mixed aged groups in their classrooms the teachers responded as follows:

> *"I like the mixed age groups for the children's comfort to learn from each other and just having that environment where the different ages are in the same place so that the child can learn with each other and learn together"* (Participant 7).

> *"One of the Montessori principles which are so important and work so well is that mixed age grouping. So, they, the younger children learn more from observing and working with older children"* (Participant 5).

"Having the importance of mixing the age groups is having a chance of the younger ones learning from the older kids. Because kids learn at different pace, different levels, some children learn better from what they see or hear from others, than from hearing from teachers or being presented via teacher. So, it is very important to have the mixed age groups in the Montessori classroom because some kids will obviously learn from older kids" (Participant 3).

"The vertical grouping from my understanding is just so that it facilitates learning. The mixed age groups allow for the children to learn from each other so that the younger children are learning from the older children. And for the older children it allows them to put into practice for what they know and to give them confidence it really does help them, it gives them confidence, it also just cements that understanding of "I know how to do this" and then they are able to pass that information down to the younger children" (Participant 11).

"With regards to learning the younger child being exposed to the multiple experiences through the work of the older child, and being able to observe and learn through observation not only from the adult but from their peers, which in my mind often support the child better than learning, than observing an adult, because they can relate better to a human being that is closer to their size and their age" (Participant 6).

"Children, they are in that social embryonic stage where they like to help each other and learn from each other. And, with vertical grouping it is wonderful to see the younger children learning from the older ones and the older ones can help the younger ones, and they enjoy it, they do not see each other as younger or older, they know their ages but they are like "that is ok we can all work together" (Participant 14).

"I think the vertical grouping it is a critical component. The confidence and the consolidation of knowledge happens when the older child present to the younger child and build their confidence in that way. A younger child personally learned much better from an older child than from a teacher. An older child can teach the younger child to read in three days, it can take a teacher month's" (Participant 2).

From the interview results above, it is evident that the teachers believed that mixed aged groups are an important feature of the Montessori Method because learning is promoted in the mixed aged groups through peer tutoring and collaboration among learners of varied ages

in the classroom. They believed that children could seek help from the older children in the class and this can indirectly grow such children's self-esteem and confidence.

Theme 5: Lessons are provided on an individualised basis

In keeping with her child-centred approach Montessori encouraged the use of individualised lessons. These lessons should be provided on a one-to-one basis and geared towards the child's individual level of development and learning.

In response to their understanding of individualised lessons the teachers said the following:

> *"We work individually with the children. On-on-one with the child so they can concentrate on what I am doing without being disturbed by anybody around them, so I can have that undivided attention, and then when I see they are working on their own, do I need to re-present, or have they got it"* (Participant 1).

> *"You fully are grasping the child's attention, you are able to pick up the things that were off or if they are doing it incorrectly, or you are able to guide them in a little bit more instead of the entire group. If you have five children, sometimes the message does not quite transfer in the way that you need. With the on- on-one you are able to really understand how are they able to receive the message that you are trying to send"* (Participant 13).

> *"It is something that you want specifically for that child to learn, or you want to assess, so spooning, pouring, dressing frames, pink tower, letters and numbers, number rods, for me that is individual based. But when it comes to something more specific that you are looking in the child's personal individual development, then one-on-one"* (Participant 10).

> *"Individual presentations, working with the child individually is important because you can observe each child where they are at on their own. I can see where the child is at, how are they thinking that observing and I can assess them more easily"* (Participant 14).

> *"The one-on-one presentation, that space it is just you the child, and you can really get to observe what they are grasping and what they are not grasping*

and whether they need a bit more repetition, it allows a lovely space" (Participant 5).

From the data results, it is evident that teachers saw the Montessori Method as providing them with the means to assess each child's knowledge level individually. They understood that through individual lessons they can retain the child's attention and this in turn develops the child's ability to concentrate. 5.3 Findings on Teachers' Understanding of their Role in the Montessori Method

5.3 Findings on Teachers' Understanding of their Role in the Montessori Method

A second area of concern in this study was to ascertain teachers' subjective understanding of their role in the Montessori Method. The findings for this objective were drawn predominantly from data obtained via the interviews.

The following themes emerged from the thematically analysed data: the teachers saw themselves as guide, observer, and the custodian of the classroom.

Theme 1: Being a guide

Montessori teachers are regarded as guides while the learners are expected to take an active role in the classroom and to construct knowledge for themselves (Marshall, 2017). In response to this aspect of their role the teachers indicated the following:

"To guide. I do not see ourselves as a teacher as much as a guide. I think the directresses guide. I would say the guide is there to present to be enthusiastic about it, to give a good impression towards the work and to make sure that all ground rules have been adhered too that everybody is safe like you do not disturb, you choose work that you have been presented, you do not break the work" (Participant 2).

"The role of the teacher is to guide the child, guide them along their path and challenge them where necessary but also let them be and do at their own pace" (Participant 7).

> *"For me, the guide role comes in with your boundaries and presentations and for being the role model of expected behaviour in the classroom and always I think holding yourself to the highest possible standard of humanity in the classroom for like the physical to the spiritual"* (Participant 6).
>
> *"To guide, by helping them in different stages, observing the child, presenting the right equipment to them at the right time. I would say until the child is ready to move into another period of development so I will guide the child. That is my role as a Montessori guide"* (Participant 3).
>
> *"We are called directresses as we do not like to . . . we don't visualize ourselves as standing in front of the child and prescribing and teaching the children the same thing. I understand that you stand behind the child and you guide for at their pace and follow them and follow their interests"* (Participant 4).
>
> *"The role of the directress is that you are there as a guide for the child, and you are very intrigant part of the environment and the process of their understanding of the work"* (Participant 5).

From the data results, the participants saw their role as guiding the child's learning process through the different developmental phases. It is also evident that the participants understand that the role of the guide is to help children to construct their own knowledge. Furthermore, they saw their role as guide not only in terms of guiding the child's learning process, but also to be a role model for the child by exhibiting appropriate behaviour towards the environment. Lastly, they believed that the guide should not teach collectively, but should guide the child individually according to the child's individual needs and interests.

Theme 2: Being an observer

For Montessori the teacher uses observation as a tool to determine and assess the child's learning readiness. Through these observations the teacher gains an understanding of the child's needs and determines how to support the child. Observation also assists the teacher to detect the child's sensitive periods of development.

The teachers responded to their role as observers in the following ways:

"I should say according to Maria Montessori principles or the Method towards the younger children and looking at their stages of their growth it has a soul coming into my understanding that children develop at different pace and without having to observe or having to apply the right Method, you may not be able to find the real of them. I am talking about the children now again, but using her Method she talks about observations so if you observe a child, you will be able to see at what their sensitivities are and at what stage" (Participant 3).

"So, for me like an observer is not only just seeing but seeking to understand and, being curious in all situations and using that information for feedback and for practice" (Participant 6).

"From academic perspective, I think for the guidance is observation, observation, observation… wait and watch rather than train and teach and follow the child. I do not think that a lot of people really understand what that quite means, but if you don't know where the child is and you can't see where the child tries to get to, then you are not going to be giving them the right things that they need" (Participant 2).

"The thing is to be observant, because observing is one of the most important things. Because that is where you get to know the child, and you get to guide the child, so I think I am just being present in the moment and just being able to tune into all the aspects of what is going on in your class, because you are actually having to multitask in your class, quite a lot" (Participant 4).

Observe! My role I have always look into is to observe. How I observe is literally "ok I am going to work with you", "she is in my eye view, she sits here and I can see her", that is what I have to do, because I am continuously observing, I do not have the freedom to sit, I have to be more observant" (Participant 10).

"From my understanding, eventually we could have been able to completely step back and just observe what the kids were doing in class. And, just by observing we would be able to see are they stepping over their friend or are they walking around them, so all of those social and emotional, grace and courtesy all those things we would be able to see within the environment as they keep working, so at the end you are an observer, you are not interfering" (Participant 9).

"Once a week I will sit for about 20 minutes or 30 minutes and then I will observe the children. I do not do all of them I maybe do two or three children each week because I need to do proper observations, I cannot watch everybody, and then I will do it basically like you've done, I'll do from nine until nine to five I will put the time and this is what they do and put the times and, see what I that they have done" (Participant 1).

"Knowing what they want, because you are in that space where you are not directly involved in the area, so you are more watching and seeing, is this child sitting this way, what work will they take, why they keep taking that work, are they attracted to one area more than other, are they just walking around with no purpose, how can you as an observer and as a directresses, intrigue him with something" (Participant 13).

In the interview responses, the respondents acknowledged that the role of the Montessori teacher is to observe the children to gauge their sensitive periods and learning. What is interesting to note is that the teachers' understanding of "observation" varied, but their responses generally agreed with Maria Montessori's recommendations that observation is essential and should be engaged in spontaneously and daily.

Theme 3: Custodian of the classroom

The role of the custodian of the classroom in the Montessori Method entails teachers keeping the classroom tidy and clean. In addition, the classroom environment should be prepared so that developmentally appropriate materials corresponding to the developmental needs of the children are easily available. The participants' responses from the interview excerpts on being custodians of the classroom are presented below:

"I will guide the child and make sure the environment is well prepared for indoors and outdoors needs to be prepared with suitable equipment and follow the child until there is a stage, I know the child is ready to move to a different phase of growth" (Participant 3).

"You have to make sure that the environment is prepared that you are prepared so the directresses I think are key to a well-run environment. You are part of the environment, as well as the environment in order to provide the best

possible environment for the child to function and the child to construct their knowledge in the classroom" (Participant 5).

"The environment is prepared by the teacher, so, by that we make sure that the classroom must all prepared for the child the activities are prepared. The activities to make sure that everything is there so that the child does feel like now they are looking for something or it is incomplete, so the tray or the work it has to it needs to be complete, so the child will be satisfied with his job, to fulfil the needs" (Participant 7).

"As a Montessorian you always have to make sure that your environment is ready before the children come in, so in the afternoon I prepare the environment for the next day" (Participant 8).

"From philosophy that is what we have been taught, that's we need to be prepared the directresses need to be prepared, to prepare the environment. Preparing the environment making sure that the materials in the environment are there, they are adequate, so that is our responsibility. There are some materials for example like the pink tower it is not complete, the tiny block is missing, you will not be able to meet the direct aim of that activity, and also remember that we want an orderly environment we want things to, like it needs to be in order" (Participant 11).

"You need to prepare your environment, because if your environment it is not prepared you are not. The teacher needs to prepare herself, then she needs to prepare the environment, the environment needs to be spotless, clean, everything has a place then when the child comes everything happens, it becomes alive. Because you have an environment with rich materials, rich resources, you have the teacher that is the extra resource so you have got the information on the shelves but the teacher is just the one that will come and make it exciting for the kids" (Participant 12).

"I think the role within the environment for her to be able to, her role within the environment is the environment itself, so to ensure that you are able to have the prepared environment for the role of the teacher to ensure that things are in order, clean, things to be accessible" (Participant 13).

The teachers were unanimous that their role was to prepare the learning environment, with all materials neatly organized on the shelves. Moreover, the teachers understood that the

materials on the shelves need to be complete, adequate, and accessible, for the child to meet the learning objective and comprehend a concept.

5.4 Findings on how Teachers' Implement the Montessori Method

This study also intended to establish how teachers implement the Montessori principles in their practice. The findings in this regard were obtained predominantly from the interviews. In addition, data from observations was used to corroborate the information from the interviews. The themes that emerged from the thematically analysed data include: lesson presentation format; work cycle; learning materials; and freedom of choice.

Theme 1: Lesson presentation format

On the question of how they implement the lesson format principle in their classrooms, the participants responded as follows:

> *"Majority are one on one presentations, but there is certain presentation in Maria Montessori's manuals, I do not know how would you call them… when it is a small group presentation. Playing a silence game by yourself is …. Not as…. Play broken telephone… you cannot play broken telephone by yourself. So, some things have to be group presentations but the majority would be one on one, individual so you that you can make sure that the child have understood the concept"* (Participant 2).

> *"We start each morning with group activity, and we will present topics during that group presentation, whether that be something on the values of our school … today I have been doing collective nouns, but obviously we have to aim it at that full range of children. We take, there is some adjustment to that, to mainly that group presentation in my language area is my main group activity, the 'I spy' game which underpins the learning of auditory discrimination, I do a little groups, I have adopted this group presentation as I have arrived at this school"* (Participant 4).

> *"With the cultural area there is so much content and the groups are quite big so we found it easier to do a lovely presentation with the group so that you can get to all that knowledge across them, especially if we are doing out the body*

today, so we are sharing stories and facts and the children get to listen and absorb from each other their ideas and you can also get how much they have picked up. Like last week we were discussing different vegetables so there is a theme, in that set up for the week and we discuss and explore that then, so that we are covering all the different content that you see and it gives all the children the, they are able to hear and share that content" (Participant 5).

"Presenting individually is very important depending on the child and how the child's understanding is. Some children would not cope well in the group work. I will rather do individual presentations. And for example, if we are doing the bring me game it is very important for two or three kids" (Participant 3).

"I definitely do incorporate a big group occasionally where not necessarily every single day. We have our three-hour work period in the morning. I do present individually (in the morning work cycle) but occasionally I will have a group about, small little groups that is definitely more with the cultural materials will have a little group about the big 5 or whatever so I can have a little discussion They have now introduced a second work cycle into our area, so after lunch we go back in for another hour to work, so for me, instead of doing Montessori work again, which they have done for the three hours in the morning, I, then, usually take that time to do a group. Because quite a few of our children have left, so I only have about nine or ten still in our classroom. I have to say in that second work cycle I am not conforming, I do modify it, and change it slightly and do more of a group discussion" (Participant 1).

From the interview excerpts it is evident that some teachers adopt collective lessons and some of the teachers implement individualised lessons. While two of the participants commenced the work cycle with a collective lesson every day, one occasionally adopted collective discussion lessons in the afternoon work cycle with a smaller group of children.

The foregoing practices were confirmed by the observations of the teachers' classroom practice. Here is the data from the researchers' observation journal:

"There is an elephant activity placed on the middle of the carpet. Teacher 4 asks the children to all sit in a circle on the floor and to cross their legs. T4 tells the children that today they will learn about elephants (this is another group of 14 children as different groups of children rotate each day thorough the areas- T4 is assigned to the language area). When the children settled on the

carpet, T4 starts the lesson with asking the children if they know what mammals are" (Journal entry, 05/04/2022).

"A classical music is playing in the background. Teacher 5 and 13 children in her group are walking on a line, that is drawn on the carpet. T5 asks the children to sit on the carpet and announces that today they will learn about the human bodies (there is a specific theme that ss prepared in each circular area). T5 starts the lessons with asking the whole class questions relating to the human body" (Journal entry, 01/06/2022).

"The whole class is sitting in a circle on the carpet. Teacher 6 starts a discussion on weather and asks children what the weather is like today. T6 picks up cards representing weather changes and discusses the weather with the children. While this whole class discussion is occurring during the morning circle time only, teacher 6 have been presenting individually in the past two days while I have been observing her class" (Journal entry, 11/04/2022).

"I have been observing teacher 11's practices for three days now. During these days teacher 11 have been presenting all lessons individually or to children grouped by three or four" (Journal entry, 22/06/2022).

Thus, from the results obtained from interview excerpts and the observation journal entries, it is evident that collective lessons are implemented by a small number of these Montessori teachers. However, the data also revealed that there is a greater number of teachers' who adopt the practice of presenting lessons on an individual basis or to a group of three to four children, as recommended in their Montessori teaching manuals.

Theme 2: Work cycle

A work cycle is the time frame used for learning and presenting activities in the Montessori classroom during the day. The interview excerpts on this theme are as follows:

"We haven't been exposed to three hours work cycle here, and even in other schools I see them they do not expose them to three-hour work cycle. So, for the circle time for example is one hour long, but the Montessori …. I do not mind pushing it to two and a half hours, because I have done it" (Participant 8).

"I try never to cut the work cycle. If children arrive late, they know to just quietly join the class without disturbing. Extra murals are always in the afternoon. Even if the class is disorderly, we continue on and the children will settle themselves. We treasure this 3-hour work cycle and will stick to it as much as possible" (Participant 1).

"Well number one is the work cycle, that is the first modification. In that sense it is almost like a decision that is made on fight or flight because you want to give them as much of the Montessori Method you want with what you have" (Participant 13).

"So, you know (the three-hour work cycle) it is an important dynamic to have, I think we are just under the three hours" (Participant 5).

"Yes! It is crucial to have at least a minimum of three hours, and I think that many teachers Montessori guides, do not trust the system fully enough and they do not understand the scientific reasons for this cycle. the child needs that endless time and it might leave it more than three hours. Three hours is the minimum!" (Participant 2).

"We definitely keep it within 2 and a half and within three hours but it doesn't always happen like that. If we are doing it in two and a half hours its, if we do it three hours it is usually two and a half because the last 30 minutes it is circle time. So, if we start at eight, we will always end up at 10:30 or 10:15, so it is very difficult, I have never been into a school that actually does like a three hour flat out work cycle. Where I did my practical, they had a two and a half hour one, and then they had an hour and a half after" (Participant 11).

"I think obviously the work cycle is where we had to do certain adjustments, and also just the way we are operating here, it is an adjustment you know it is not a recommended in the books" (Participant 4).

"You pack away in 09:30 and you go to play from 09:30 till 10:30 you will come back into the class and fulfil those times, that is how we just are, we know the Montessori Method they need a three hour so if you cut it short, we will come back and fulfil those hours" (Participant 12).

From the interviews it is clear that great number of the participants provided children with a work cycle of two, to two and a half hours. Very few of the participants indicated that they

strictly implemented a three-hour, uninterrupted work cycle in their classrooms. Most of the participants indicated that the work cycle is interrupted either by extra activities or by the adoption of circle time which reduces the three-hour period.

The variation in the work cycle was confirmed by the researcher's journal entries:

> *"The work cycle started at 09:15am. Around 10:03 am, teacher 6 called children to pack their work and to sit on the carpet to have sandwiches. The snack break lasted for 15 minutes. As the children finished their snack time, they went back to choose work from the shelves. The work cycle finished at 11:43am. Today the whole work cycle with the snack interruption lasted only 2 hours and 13 minutes"* (Journal Entry, 11/04/2022).
>
> *"The work cycle has started at 08:02am. Teacher 10 advised that they can choose work from the shelves and work either on a floor mat or a table mat. The children worked until 09:03 when teacher 10 asked them to pack away. There was an intra mural from 9:00 until 09:30. When I assumed that the work cycle will be resumed after the intra mural, teacher 10 announced that they need to line up for puppet show. Today's work cycle lasted only 1 hour, due to the intra activities"* (Journal entry, 10/06/2022).
>
> *"Teacher 14 started the work cycle at 08:04 am. At 09:25 teacher 14 called for children to pack away their work as they need to rotate the two groups between the two classrooms. The children waited seated on the carpet for 20 minutes, until 09:45 when the other group of children arrived from the ground floor classroom. When the rotation of groups was finished teacher 14 resumed working with the children that arrived, until 10:28 when teacher 14 asked the children to pack away as it was a circle time. Total work cycle time today was 2hr and 8 min, and it did not last three hours"* (Journal entry, 28/06/2022).
>
> *"In teacher 3's classroom, the work cycle today commenced at 08:01 am, and it finished at 11:10 am. There were no interruptions as extra activities during the work cycle. Teacher 3 additionally does not adopt routine as circle/ring time during the work cycle. The children concentrated and worked on Montessori activities throughout the 3 hours and 9 minutes"* (Journal entry, 30/03/2022).

The interviews and the observation journal data thus show that a significant number of these Montessori teachers shortened the work cycle, interrupted the work cycle with extra

activities, and adopted collective circle time during the work cycle. Important to note, only three teachers implemented an uninterrupted three-hour work cycle in their classrooms.

Theme 3: Learning materials

Montessori education is primarily a hands-on approach to learning and uses a core set of instructional materials which are to be used in its learning environment. The materials are distinctive and designed to teach a single skill or concept in a logical, and developmentally appropriate way. Given their significance it was important to establish whether the teachers in this study used these materials and/or supplemented them with their own materials.

The findings on the participants' use and/or supplementation of these materials with additional materials can be discerned from the interview excerpts below:

> *"Yes, it is a purist thing. I found that we do need supplemented materials. The busy books are prepared individually for each child, so it is to develop fine motor skills, the younger children start with writing patterns and as they progress, they start to tracing letters and things, so it is to introduce them with the directionality of their letters, and to illustrate our topics. to see whether they have a grasp of what we are learning about and to develop their imagination and to develop their creativity and artistic skills, and along with the fine motors' skills"* (Participant 4).

> *"I think, well, there are some works with extensions. For each area, it will be depending from the directress that is teaching in that area, why she is chosen to material make or to add those extensions. Especially I think sort of for maths, there is the early work which there it wasn't too much of with the pure Montessori materials, so those kinds of works have been implemented to extend those concepts. Cultural obviously is more diverse, so you will need to be making more materials obviously especially with the guidelines of the traditional nomenclatures and then you can bring in other elements like a clay or playdough or a lot of drawing or art to extend on those certain things"* (Participant 5).

> *"For an example literacy we have very few supplemental materials because the Montessori curriculum is extensive and that supplementations, there is nothing really that can be supplemented, there is not gaps particularly in my opinion in*

the literacy curriculum. But for example, I do not have a specific Montessori material that is specifically teacher's graphic. I did a little graphing activity, so that is kind of for me where you would maybe supplement a Montessori material. For our six-year-olds we include a book work, and the purpose of that is really just to provide them familiarity with book work when they start with traditional schooling. So, we use a book that will look familiar to what most government schools will have and they usually start it either the beginning of second or the beginning of third term. The one is a notebook and the other is activity workbook, which is …I know we do not like worksheet … but it is just something for familiarity more than anything. With regards to like adjustments to the materials and addition material for me it is important the school to be respectful to the institution government that you work under, and if they have put certain guidelines in place to accommodate them while still maintaining your integrity" (Participant 6).

"I prefer to stick with the authentic Montessori materials… these are Maria Montessori's equipment that are in the three to six environment … that I will recommend. I prefer to use the actual materials, then toys or anything else that is not Montessori" (Participant 3).

"I mainly create my own, because our classes are only stocked with only Montessori materials so I usually create my own. So, I had a boy that started with me literally a month ago, who has no Montessori background at all, and his overall development is also a bit behind, so with him I am starting off with the sand paper or the sand tray or the sand paper numbers and so on, and then I have big chalk boards that have big blocks so eventually from that size he will move to the chalkboard blocks, and then I will create my own papers that are a little smaller blocks until eventually he moves into a book" (Participant 9).

"Montessori materials are tried and tested and cover everything, so, why would you like to give them something else that we already have with all of our materials, I mean, I wouldn't mix in other things because if you look in all our materials, we cover everything in every area" (Participant 1).

"In our environment we do have extra work which is supposed to be an addition to (the Montessori materials). There are materials that are not Montessori but they still almost like Montessori, they have the same aim, it is just it is not Montessori. For example, the rainbow, it is not necessarily a Montessori, but the aim it is still the same, it is the visual discrimination of size right. There is traditional thing like the paper work … so this is in addition too" (Participant 11).

> *"It is very important to have the Montessori materials if you don't have … the materials that have been designed, you need to use them. Otherwise calling yourself "MONTESSORI school" but you are not actually implementing the materials … It is hands on method so… sticking to the principles*" (Participant 2).

It is clear from the excerpts that these teachers do supplement the learning environment with non-Montessori materials. The most common of these supplementary materials were notebooks and worksheets which the teachers believed would enhance and extend on the materials present in a strict Montessori classroom. Only three participants used the traditional Montessori materials and did not supplement these with additional materials.

The results obtained from the observation journal confirmed the extent of the addition of non-Montessori materials in these classrooms:

> *"Three children are playing with little doll figurines and a basket on the floor. This is not a recommended Montessori material. In the language area where teacher 4 is assigned to work, there are great number of supplemented materials. Repetition of the same colourful alphabet matching puzzle, with laminated tiles of letters is evident. These supplemented materials could be used as extensions for the original Montessori materials that are lacking in the language area"* (Journal entry, 05/04/2022).

> *"Teacher 12 is sitting on the floor mat with 9 children and discusses little animal figurines with the children. These figurines are not Montessori material; however, children enjoy playing with them"* (Journal entry, 22/06/2022).

> *"As I have arrived earlier today, I have reviewed the activities teacher 7 has on the shelves, before the work cycle commenced. Teachers 7 classroom included numerous non-Montessori materials as laminated sheets with numbers up to 5 with toy figurines which was used for matching number to quantity; a self-made felt farm activity; doll in a cradle; counting pebbles; a magnetic alphabet; traditional puzzles; and notebooks for older children (see Appendix E*)" (Journal entry, 09/05/2022).

The results from the interviews with teachers and the researcher's classroom observations, shows that in addition to the use of authentic Montessori materials, most of the teachers supplemented their learning environment with non-Montessori materials. However, three of the teachers in the sample used only the Montessori materials.

Theme 4: Freedom of choice

Freedom of choice is one of the fundamental features in the Montessori Method. As such it was important to establish the extent to which teachers encouraged such freedom in their classrooms.

In this regard the participants stated the following:

> *"So that is where my traditional teacher comes in, I do not want a child to fall behind, so I am very pushy with the children. Rather to be the mean teacher and shout and let's finish this, and let's get this done, instead of just letting them be, and yes do spooning for the thousand time and leave the numbers or the math or whatever, I rather be that teacher. But with free choice, I've for example I have closed practical life off, and puzzles, because they that is what they go for the whole day. The free choice there are days where I will allow them but then when there are specific days where I need to do like a specific observation and so on, then I will sit out, I think it was Thursday when you were with me, I set out specific activities that they had to rotate in between"* (Participant 9).

> *"That is what Montessori is about, that freedom of choice. In my class I would ask them "what would you like to do today?", I can say "we can try it" and if they can't do it, I can say "maybe we can do something similar I think you would like?" So that freedom of choice is still there, where they can choose it even if they can't do it yet … The freedom of choice here they can choose freely"* (Participant 14).

> *"I give my kids that freedom. I do not think that they should be forced. I am firm believer in the freedom, I think it is essential for a child … because I want them to feel comfortable and happy, it is supposed to be an environment home away from home"* (Participant 10).

"Children do have freedom in my classroom… a freedom of choice a piece of material to work with it is important for us as a guide to give kids freedom in the environment they need to be given a choice to choose the work that they would like to ... if a child decides to not join a group that is perfect, we will not enforce that child otherwise. If a child prefers to work with a friend, we encourage that as well" (Participant 3).

"I had to limit X, wouldn't do anything from math's and language, and he just want practical life. So, how I limited it, I allow him to go to practical life, he can do which activities he wants, but we have got to do something from language together and then it would be what you want from practical life, like "let's go and do something in math's", and then some days I can see that he is just not having a good day, so then I will just be "ok, so then just you can be in practical life". So that is where I limit things" (Participant 12).

"It does hinder their freedom of choice within their classroom rotations, this completely eliminates the freedom of choice for an hour and a half, because the classrooms are completely separated. Because they are limited to these three areas for an hour and a half and they are limited for hour and a half to two areas at the time. So that does completely disrupt the freedom of choice, takes away from the freedom of choice. And, as much as there is freedom of choice there is also ensuring that the child, you are not dropping, you know the milestones need to be met and for me, I can't let a child to build blocks for three years" (Participant 13).

From the results of the interview data, free choice opportunities in the classrooms are limited to a great extent by some of the teachers. The freedom to move between the five curricular areas is prevented by a classroom system which is 'fixed' in terms of function and separated groups rotate between the areas daily. The children are consequently confined to work only in selected curricular areas for the day instead of having the freedom to explore and choose activities continuously from the other areas. The data also revealed that some teachers allowed children to freely choose their activities, as well as to choose whether they want to work with their teacher and peers.

The results obtained from the observations corroborated what emerged from the interviews, viz., that teachers limit the children's freedom of choice in these Montessori classrooms. The observational journal entries on this theme are presented below:

"Teacher 4 is giving a lesson to the whole group of children on elephants. Children are sitting on the floor and listen to the lesson. One child stood up and moved towards the shelves. Teacher 4 asked the child to come back and sit on the carpet in the circle. Also told the child that he/she could have asked before the lesson has started" (Journal entry, 05/04/2022).

"Teacher 13 asked the children to pack away their work and prepare for morning ring. One child told teacher 13 that he/she does not like to participate in morning ring and prefers to work with the activity. To this, teacher 13 once again repeated that he/she needs to pack away and sit on the carpet, and later can finish the work. The child's choice was prevented where instead of working with the activity now he/she needed to pack away" (Journal entry, 29.06.2022).

"Teacher 1 approached two children that were already working with cultural cards and asked them to pack away their work. Teacher 1 used direct instruction as "Come pack up, I want to do reading with you" instead of giving the children choice to finish the activity at their preferred time. The children packed away promptly and joined teacher 1" (Journal entry, 08/03/2022).

From the observations it is evident that some participants were indeed limiting children's freedom of choice in various ways in their classrooms. Children were prevented from working with materials of their own choice, to work in a desired curricular area, to work with an activity for as long as they preferred, and to choose whether to participate or not in circle time. However, as with the use of only Montessori materials, there were some teachers who remained faithful to the Montessori recommendation to allow children the freedom to choose their materials and to work with these for as long the children wanted to.

5.5 Findings on Psycho-Social Factors that Influence Teachers to Modify the Montessori Method

This study further examined the psycho-social factors that influence teachers to modify the Method's related principles in their practice. In the following sub-sections, the results on the psychological factors are presented first, and this is followed by a discussion of the social factors influencing teachers to modify the Montessori Method and its related practices.

5.5.1 Findings on Psychological Factors Influencing Teachers to Modify the Montessori Method

To establish how and why teachers modified the Montessori Method, the research also attempted to find out the reasons for such modifications. From the thematically analysed data related to this aspect of the research the themes which emerged included: teachers' beliefs and teachers' disagreements with aspects of the Montessori philosophy.

Theme 1: Teachers' beliefs

In the interviews conducted to ascertain teachers' beliefs about the Montessori principles, the teachers responded as follows:

> *"I do, because that is why I said when you asked me about the figurines. I would not have allowed that really, until you actually asked me about it and I thought they actually engage with their imagination and stuff so let me just allow it. That is kind of non-Montessori, but it is animals, its everything is connected, so in a way I would have non-Montessori stuff, so it is good to have it. It is good to interact the child, the hand is the instrument of the mind, the mind works when the hand works, it engages so let's say, you have (child's name) who knows nothing, I am just saying hypothetically and then you have (child's name) knows static addition, do you think you can engage his mind, he is going to lose it he is going to be bored he is going to a bit bored, so if he is following you if they.. yes, I believe that you can adopt non-Montessori materials"* (Participant 12).

> *"This, it isn't Montessori, it does not directly come from there, but it is a discussion card, so I think there is one or two things that you can adapt to the core of what that activity is. For example, if it is a spindle box, you can pair the spindle box with a different kind of activity still having the underlying lesson. So, even like something like that, that is not Montessori but then you are pegging, so you are putting in the missing numbers, and this is not a Montessori material but you are still using the basis. The indirect lesson. So, yes, I believe of using definitely the Montessori foundation and philosophy and materials,*

but I also feel like there is a space to be able to extend them a little bit more or manipulate them to still have the same meaning" (Participant 13).

"I do not have anything against supplementing but like I said taking best of both. If it will be beneficial for the children, then yes by all means I will use the material, because it is some sort of development" (Participant 8).

"Sometimes if a child wants to do a puzzle, I let them just for the sake to teach them for the detail orientated part, "this side is flat so it can be on the side, this side have two flats so it can be a corner, and these all can you look at the colours can they match, can you look at the shapes do they match". I know it is not part of math's per se, but sometimes if a child cannot build a puzzle, it is just nice to like give them that bit of support if they want to build that puzzle, and I know that it is not Montessori based, but I will always do work with them regardless, even if they just that puzzle regardless but not in disturbing way, it is from where they took from the last time and they can still build their progress from there. If they are really not concentrating elsewhere then I will really do a puzzle with them, just to, because it is something that they want to do and it will build up that drive" (Participant 14).

"I also think that years of having taught I also think of expectations of children nowadays are way higher when I have started teaching 25 years ago you know. As they go into these schools more is expected of them, and so I have also changed my way, I actively make sure I work with every single child in my classroom, every single day and I think that is important for me because I know I have connected with every single child in every single day, whereas I find that is slightly different in the other classroom. And, they do not agree with me, so they want to allow the children to do whatever they want and I am saying yes, but in within boundaries and I think it is important as a teacher that we have that one-on-one connection with every single child every day" (Participant 1).

"Theoretically it is idyllic in a way to have three hours work cycle. I think we are dealing with a different child. I think we now are dealing with ... in the last 18 years we are dealing with shorter attention span and wanting a gratification, quick gratification. We try and work on a three hour as close as possible. I find that the children are actually getting a bit restless. That you know we are dealing with an evolving child" (Participant 4).

"Why do we need to do the three-hour work cycle a day, because eventually the children get bored. They cannot progress to the next level yet because they do not quite understand this one, so they are stuck with the previous things

that they have done hundreds of times, so eventually they get bored. So, my in my mind I feel like I love the equipment, I'll use this to show them addition if they are there, but problem solving is a massive lack, fine motor, social and emotional because it is individual work station. But for me to say there is classroom go choose your own work, it is a bit it is a distracting it is chaotic" (Participant 9).

"We are having a different kind of child in the classroom especially last year after covid, that was a lot of movement seeking needing a lot of gross motor and movement, were finding with these children, because the children were not playing outside anymore, and that was quite an important thing, it was very limited and they were not able to focus on work because they were just so movement seeking with so many more challenges than before. So now we have got a child that almost you know the normalization that Montessori spoke about is a very different child from that time to this time" (Participant 5).

From the interview data, it can be seen that the teachers' beliefs and their personal theoretical understanding of how children develop and learn, influenced their decision to modify the Montessori practices. They also indicated that the authentic Montessori practices are not sufficiently efficient to prompt the children's learning and development.

Theme 2: Disagreement with the Montessori philosophy

Concomitant with their personal beliefs and understanding mentioned above, the teachers also expressed their disagreement with the Montessori philosophy as follows:

"I feel you are the responsible adult, so I do differ with quite a few Montessori teachers in that they will say: "it is ok for Senso to be outside swiping for six months". Now for me I will let Senso swipe, but then I will go to him and say: "I am here to come and check this huge pile that you have swept and then we can swipe it out and put it in the dustbin and then can you come inside because I have something else that I will really like to show you". So, I disagree with the philosophy that we've got to let them do whatever they like" (Participant 1).

"I think we do need to evolve, I believe in a certain amount of flexibility, so you know I do not think one wants to be, I do not think that Montessori wanted it to be prescriptive, because I think her principles are more expansive, so you

know I do not think rigidity was what she was wanting at all. Personally, I believe in adaptability and flexibility and certain amount of change but all based on those sound principles and those sound building blocks. I find it with Maria Montessori, I think we are dealing with a different child. I am not sure that, that false fatigue comes after" (Participant 4).

"I still believe that, I say you do not have to stick to a certain method, there are so many ways that you can teach a child how to read, how to write, how to draw, how to paint, how to mess and it does not have to be either Montessori or traditional, yes … you can mix it up" (Participant 8).

"I feel like implementing the theory and actually doing it, it is two different things. In my 20 years of experience, I have found out that reading the books and the assignments and theory and implementing it is very different. You got a book and nowhere in that book it says how to run a class, how to discipline a child, it makes it sound all pretty and fairy - normalization they are just walking and they are there! Is there a gap between a Montessori book and a classroom? .... Now children are overstimulated, now children got everything. You have to twerk it, you cannot go and look into a book that has been made a hundred years ago about children who listened, and because at the end of the day they will get a free meal, so of course they are going to say yes" (Participant 10).

"The freedom thing for me you know, it is still … I am still a little bit kind off not sure about it so much. I mean where do you draw the line, the limits, I mean where is the limit?! is it "I can smack my child, but like smack it a little bit", which one is it I do not know. That one is my own personal belief I do not know that I can just fully open up to the idea for freedom, like eat whenever you want. I believe that it should be some structure, some structure it needs to be in play, it is the question of how much, it is not really clear, of how much freedom it is freedom" (Participant 11).

"I think it is a beautiful thing for a child to be 'normalized'. But I think of how it gets there maybe it is what influences my decisions. As much as I wanted the classroom to be fully open in order for them to be normalized, I needed to try something else, because, if, and the reason of the modification of the teacher is because my belief of, if it, a teacher is competent or not. And I just found out that was more, and it is fully my decision, because now I need to trust, do I know what I am talking about, because if we try different way, which now we can, which we will with a different teacher, but I think that in that moment and time and I needed to make a decision based on, how to get there was it not

necessarily exactly the way that we would want, it had to be a different way" (Participant 13).

From the excerpts presented above it is evident that the teachers did not agree with some of the philosophical principles and theory of Montessori and the Montessori Method. Some teachers disagreed specifically with the principle of freedom of choice and believed that children should have structure and should not be allowed complete freedom within the classroom environment.

5.5.2 Findings on Social Factors influencing Teachers to Modify the Montessori Method

The study finally examined the social factors which influenced the teachers to modify the practices related to the Montessori Method. The following themes emerged from the thematically analysed data: parental demands and influences, financial constraints, and children's disruptive behaviour.

Theme 1: Parental demands and influences

Regarding parental demands and influence on the teachers' practices the respondents said the following:

"When I was working in the maths area for certain parents, they wanting to engage their child progress, so they want to see the academic side, the academics math's, language, so parents wanting to see where they are at" (Participant 5).

"It is just a compromise to the parents, like as frustrating as it is it makes the parents feel more secure, to see the children's work on paper. Like you know the child's has the most massive internal construction of their learning, but they still like to see proof of it. And then externally a lot of the adjustments that we have made are just to accommodate or working and compromising to maintain the integrity of a Montessori schools but also to meet the expectations of the parents while we maintain the integrity and a lot of that the maintaining of the integrity Is also the education of the parents as to why, what we do it works" (Participant 6).

"It is before my time here with the mixed age groups, something with the parents didn't like it, they felt that the older kids will bullying the younger kids" (Participant 10).

"I think what is being the reason of change for a lot of things is the expectation of parents and the lack of understanding of Montessori. Sometimes (principals name) the mentality is there they, it bucks in with them, so if they pay then you need to provide for what they are asking for. So, that is like then you compromise a little more. Arriving late, is huge it is part of the whole bracket I think, because as much as I have said millions of times I have sent of emails and said I really appreciate bringing your child a little bit earlier, they are missing on a lot of work. There is not much more I can do if they do not listen" (Participant 13).

"Because they want smaller classes, the parents, because, most of our parents in terms of the number of students in the classroom when you go to a private school, you want smaller classes, you want more attention to be given to your children, you do not want that vast gap between having a three-year-old and a six-year-old in the same class" (Participant 8).

"The parents that are obviously coming into the school, that interrupts the cycle. Parents that come into the environment as well, coming into the classroom, they will sit here for a little bit, they will, you know obviously they want to chat to you, but now I am busy and I want to present something and you know, automatically just stop that stop everything, stop presenting, work. Children come in late, it is that thing where you come in whenever you want because I think also parents do not really understand Montessori as well" (Participant 11).

From the results of the interview data, it can be seen that parental demands and influences are major social factors that influence the teachers' implementation of the Montessori Method. Parents expected teachers to include workbooks to track their children's academic progress in the different areas; did not agree with the 3-year age span; and found the notion of the work cycle problematic.

Theme 2: Financial constraints

On the school's ability to invest in authentic Montessori materials the respondents said following:

> *"It is also a practical reason for the children to rotate in one environment, because then you don't have to have five sets of equipment (in different classrooms), so you can have a bigger range of equipment in each area, rather than having a mix of equipment in one area"* (Participant 4).

> *Their busy books, and then I think it is paper as well at the end of the day, because they go through a lot of paper, so now they know that is their busy book and they can work on it"* (Participant 5).

> *"The Montessori materials should be in the classroom in its entirety too, as much of an extent as possible within the school's resources. So, for an example we often add on Montessori material, as we know that there is some stuff that we haven't quite gotten to affordability wise yet. We are busy looking at getting the bead cabinet for the primary to put in the lower primary classroom, which I will have access to my older children but, it is R10 000, which it is not just something that we can spend"* (Participant 6).

> *"I think if you can in school to just afford to have the authentic materials, and everything that it is just made, can be very pricey if you are buying the authentic. But certain areas do not have to be pricey like the practical life, you could actually just have the practical life structured as in the dressing up for example, we can have like little aprons and a little hats, and a chef little outfits, things like that, and I think that it is not very Montessori though*" (Participant 7).

> *"The struggle, where we have used coloured pencils as spindles to count quantity to numeral and just crossing the midline, we didn't really had the language section where you have the insets so we just worked with the insets and a piece of paper, and I did not see a difference in it, because it still we still followed all the methods and procedures in presenting it is just that we weren't well off school to have the opportunity of working all the equipment, financially"* (Participant 8).

The responses above point to financial and budgetary constraints experienced by the teachers in the schools concerned. Due to such constraints the school/teachers were not able to acquire the full array of authentic Montessori materials, and this led them to create their own materials.

Theme 3: Children's disruptive behaviour

Children's disruptive behaviour was often cited as an influential factor for teachers to adapt and modify their classroom practices. The teachers' responses on this issue are given below:

> *"It also affects I think their behaviour in terms of you know being away from the group which affect the group so you know ensuring that the whole group stays together because if one goes here and one goes there and one goes off, and it affects the circle time for example, and I think it also maybe it has contributed to me asking for more quiet, because it really bring to more disruption and things to be loud and running and bumping. Because they need that external pressure, like (child name) wants to just role and just do that and this, which really disrupts and that also affects my need of control because there is lack of there sometimes someone sings, and shouts, so I think that also may be affected the amount of control that is in the classroom"* (Participant 13).

> *"If you have a particularly challenging child, and there are a lot a lot more conditions that we are finding in our learning environment, behavioural conditions, learning difficulties and things an those can be challenging and those can be quite disruptive in our classroom. When there is a disruptive aspect that I think is hard to maintain all those principles and the work cycle"* (Participant 4).

> *"I mean now we got elements into play, lots of a different behavioural challenges in a classroom setting which also makes it quite hard the dynamics, and to implement with some of the learning styles. Because now you got a child that is probably on the spectrum of autism, ADHD, all of these children come into play, some severe sensory processing, so now you try to accommodate all of these different elements. It impacts the 3-hour work cycle"* (Participant 5).

> *"Social will definitely be a child behaviour, because some children do not come at 8; some come during the work cycle that can interrupt and changes every*

child's behaviour, literally everyone in the class. The rotation that can be a huge factor to the behaviour as well and the process" (Participant 14).

"I think, because our environment is big, it does get a little bit chaotic and I feel that the ... chaotic it gets the less concentration it has with the children. I personally haven't been able to find a way to once it is chaotic to try and get the children back to like concentration state like to a big group, I try to do it with one child and try to draw with a one child that is running around but when there are a lot of children that are, I feel are not concentrating, that is when me and the other teacher we would decide, let's cut it, let's break it now. That is usually the reason. It is because we have seen it, the concentration it is not there, its chaos now in the environment. I think it is the chaos because the children do not have that boundary to be able to, even the inside voice thing, like our children are still very loud they are still very excited about life and spending time with their friends" (Participant 11).

"I would say the circumstances would not allow me to that at the moment, they are certain children who would not be able to, it sounds bad, but not think for themselves. For example, if I give them complete freedom, I have three specific children in my classroom who will go completely of the walls, so they have very, they need a lot of external help" (Participant 9).

The data above shows that for these teachers, the children's disruptive behaviour is a major obstacle to implementing the Montessori principles. For example, the teachers indicated that the use of the three-hour work cycle and the freedom to engage with materials was severely hampered by the children's disruptive behaviour.

5.6 Conclusion

This chapter presented and interpreted the findings from the thematically analysed data. Each section interpreted and presented data related to the study's objectives. This included the teachers understanding of the Montessori Method and their role in the Method, how teachers implemented the Method, and what psycho-social factors influenced the teachers to modify the Montessori Method. The next final chapter presents a summative discussion of the findings as related to the reviewed literature and the theoretical framework. In addition to chapter 6, the study's conclusion is discussed. The conclusion of the study indicates the

limitations of the present study and makes recommendations and suggestions for further research in this area.

CHAPTER SIX: SUMMARY AND DISCUSSION OF RESULTS

6.1 Introduction

This study attempted to establish how 14 early childhood Montessori teachers understand the Montessori Method and their role in the Method, how they implemented the Montessori Method, and the psycho-social factors which influenced the teachers to adopt practices which are incongruent with the Montessori Method. This final chapter is a comprehensive summary and discussion of the findings in relation to the literature reviewed. Lastly, this chapter concludes with the key conclusions drawn from the data obtained.

6.2 Discussion of Findings

In the following sub-sections, the main results are summarised and discussed. The findings are presented in terms of each of this study's objectives.

6.2.1 Teachers' Understanding of the Montessori Method

A key objective of this study was to establish Montessori teachers understanding of the theoretical principles of the Montessori Method. The findings indicated that the teachers understood that the Montessori Method is (a) a child-centred Method that facilitates freedom of choice, (b) required lessons to be presented on an individualised basis, and (c) promoted independence and learning through peer collaboration and tutoring in mixed aged classrooms.

Several studies reviewed earlier showed that the Montessori teachers saw the Method as a child-led and child-centred Method, and a Method that follows the child's holistic development, with due regard for the sensitivities that emerge within each developmental level (Abu, 2012; Pickering 2014; Ak, 2019; Ghatani, 2014; Alghamdi, 2016). In agreement

with the literature, the teachers in this study also understood the Montessori Method as a child-centred Method which is concerned with the individual child, and the child's developmental needs. Generally, the teachers in this study stated that the Method facilitates children's holistic development and it follows the individual developmental levels and learning sensitivities as they emerge within the different developmental planes in the individual child.

Earlier researchers also found that teachers understood the Method as an educational Method that promotes the development of children's independence. In Abu's (2012) study, the teachers regarded the Method as one that entails independence with the aim of developing independent learners. Alghamdi's (2016) study on teachers' conceptions of appropriate Montessori practices yielded similar results. The teachers stated that the Method meets the children's needs to develop independence by allowing them to make independent choices. In agreement with the foregoing studies, Ghatani (2014) found that most of the teachers maintained that the Montessori Method facilitates the child's independence. Furthermore, the teachers understood that the entire Method is based on the foundation of promoting children's independence. In Ak's (2019) study on the other hand, only one teacher emphasised the importance of developing the children's independence by providing favourable conditions that foster the children's independence.

The findings in this study agreed to some extent with the foregoing studies. While the participants in the reviewed studies clearly identified the importance of the children's independence in the Montessori Method without always identifying its educational benefits, the teachers in this study understood the Method as a general educational approach that promotes and encourages independence, helps children to develop individuality, and assists children to do basic things for themselves without the help of an adult. The teachers in this study further indicated that the development of such independence ultimately aids the child throughout life because they learn to self-regulate through the independent choice of work activities in the classroom. Furthermore, they believed that children do not only develop their independence but also their confidence in relation to their innate self-development. Thus, by contrast to the participants in the earlier studies who appeared simply to focus on

"independence" without elaborating its benefits, the teachers in this study justified the benefits of this principle for the child's individual development.

Concerning teachers' understanding of free choice in the classroom, the study by Patten and Boden (2019) showed that teachers have a sound understanding of the principle of freedom of choice as an essential element of the Montessori Method. The teachers in the present study also emphasised freedom of movement in the Montessori Method as a prerequisite for children's development of self-regulative behaviour, focus, and memory. In Ak's (2019) study, the teachers stated that in the Montessori Method children are allowed to make choices freely in the learning environment. In addition, they saw the principle of the freedom of choice as an essential principle for the Montessori Method, without further elaborating on the benefits of this principle when adopted in practice. This omission was also evident in Pickering's (2014) study where the teachers mentioned quite briefly that freedom of choice is a prerequisite for the child's construction of knowledge in the Montessori Method.

By contrast to the foregoing studies, the teachers in this study elaborated on the benefits that the principle of freedom of choice has for the children when enacted faithfully in practice. They stated that freedom of choice is the hallmark of the Montessori Method and maintained that when children are allowed freedom of choice, their innate drive directs their learning and development. They stated further that the children's concentration, confidence, and self-regulation also develop through their free choices in the classroom. Similarly, these teachers emphasised that it is crucial to provide children with varied ways to exercise their freedom in the classroom and where, without interruption from the adult, the children can reach the next developmental level. As such, the views of the teachers in this study relate more closely to Maria Montessori's notion of freedom of choice, than the teachers in the earlier studies.

The mixed aged grouping in the Montessori Method corresponds to the planes of development in Maria Montessori's theory. The reviewed literature revealed limited knowledge among teachers regarding the benefits of the mixed ages for the children's learning. In Ghatani's (2014) study, teachers contended that the Montessori Method encourages learning through peer tutoring and collaboration. Similarly, in Abu's (2012) study,

teachers understood that the Montessori Method promotes learning through the mixed-aged groups and helps children to develop a sense of community. Even though the teachers in both studies acknowledged the importance of having mixed age groups and mentioned the benefit this principle has for the child's development and learning, they did not elaborate on this issue. The teachers' responses and understanding in the present study resonates closely with Maria Montessori's notion of the importance of mixed aged groups. They stated that it is important for children to be grouped spanning different ages in the classroom because through peer collaboration and tutoring, children construct knowledge and learn effectively. Therefore, the teachers in the present study stated that through collaborative learning in the classroom, younger children can seek help from the older children, which in turn will enhance their self-esteem and confidence to take on various tasks individually.

Regarding how teachers understand the principle of individualised instruction, the findings from the present study concur with Kocabas and Bavli's (2021) study on teachers' understanding of the benefit of individualised lesson presentations in the Montessori Method. The teachers in the latter study displayed a coherent comprehension of this principle, and the accompanying benefits when it is faithfully enacted in practice. These teachers emphasised individual lesson presentations during an uninterrupted work cycle as a tool to assess individually the child's needs and learning readiness. Similarly, the teachers in the present study asserted that individualised lessons enabled the teacher to assess the child's knowledge and comprehension of certain concepts through observation, and to hold the child's attention during the lesson presentation. By contrast to the foregoing research, Fagan's (2014) study on teachers' understanding of the benefits of individualised lessons showed a lack of understanding of this principle among the participants in this study. The teachers in the latter study were unable to justify the adoption of individualised lessons following Montessori's theoretical ideas even though they generally agreed with her ideas.

From the foregoing discussion, it can be noted that the teachers in this study constructed their knowledge and understanding of the Montessori Method by internalising Maria Montessori's core concepts emanating from her theory. Through their responses, it is evident that they have used the systematic concepts provided by Montessori's theory to construct

more complex structures of systematic knowledge and understanding of the Montessori Method (Vygotsky, 1986; Piaget, 1985).

In sum, even though the earlier reviewed studies pointed to a significant disparity among the examined teachers regarding their understanding of the Montessori Method, the present study revealed encouraging results on how the Montessori teachers understood the Montessori Method. They clearly understood some of the core principles for effective classroom practice emphasised by the Method and the implications of these practices on the children's development when adopted faithfully in practice.

6.2.2 Teachers' Understanding of their Role in the Montessori Method

After examining the teachers' understanding of the Method, it was this study's further objective to examine the teachers' understanding of their role in the Montessori Method. The findings from the analysed data in this study indicated that teachers understand their role as guides and observers of the children's learning as well as custodians of the learning environment.

Concerning their role as guides and observers several earlier researchers examined the Montessori teachers' understanding of their role in the Montessori classroom. These researchers found that the teachers saw their role in different ways (see for e.g., Torrence & Chattin-McNichols, 2004; Hedeen, 2005; Murray, 2008; Chattin-McNichols, 1992; 1998; Christensen, 2016; Ak, 2019). The teachers in Ak's (2019) study, appeared not to appreciate the theoretical principle of being a guide and consequently did not see their role primarily as that of a guide of children's learning while the teachers in several other studies often saw their role as being passive observers rather than active teachers (Cossentino, 2009; 2010; Barker, 2012; Lillard, 2016; Barbieru, 2016).

By contrast to the latter studies, the findings in the present study closely agree with Isaacs's (2018) research where the teachers saw their role not in the traditional didactic sense but as guides to enable the children's learning and construction of knowledge. The evidence in the

present study indicate that teachers understood their role as guides which allow children to construct knowledge for themselves through each developmental stage by presenting the children with appropriate developmental materials/lessons within the child's ZPD, for them to reach a higher level of understanding and to make meaning of the knowledge presented (Vygotsky in Van der Veer, 2007). The teacher as a guide, they maintained, follows the child's sensitive periods for learning as these emerge individually for each developmental plane. In addition, the teachers in the present study believed that in addition to being guides, they should also be role models who exhibit appropriate behaviour which would influence the children's behaviour in turn. Furthermore, in agreement with Barbieru's (2016) findings, the teachers in the present study also believed that systematic observations were necessary to assess the child's whole development and learning progress and to systematically record the observations of what the child has achieved and what the child has yet to learn under their guidance.

An additional aspect of the teacher's role in the Montessori Method, is to be 'preparers and keepers of the learning environment'. This aspect is consonant with Montessori's view that the teacher should prepare the learning environment with aesthetically pleasing materials to attract the child's interest for learning as they go through the different sensitive periods for learning. Elaborating on this idea Huxel (2013) points to the crucial role of the teacher as the custodian and preparer of a favourable environment, where appropriate didactic materials are organised neatly on easily accessible classroom shelves.

Previous research on this aspect of the teacher's role showed that the teachers did see their role as providing a structured environment for learning (Ak, 2019). Similarly, the research by Almajed (2020) found that the teachers saw their role as preparing the learning environment daily, to aid the children's learning as they pass through the sensitive periods for learning and development.

The evidence in the present study on this aspect of the teacher's role concurs with the earlier research discussed above. The teachers in this study understood their role as 'custodians and preparers of the environment' and agreed with the view that all materials should be

aesthetically pleasing, neatly organised, and accessible. They further believed that the learning environment should be 'tended to daily' so that the children were able to meet the learning objectives of the prepared materials successfully, and in this way, fulfil their innate learning sensitivity that emerges at every stage of their development.

Thus, seen as a whole, the teachers in this study understood their role in the Montessori classroom in a way which was consistent with the principles of the Montessori Method. Moreover, the teachers assimilated Maria Montessori's concepts of teachers' roles into their understanding and existing cognitive structures (Piaget, 1969). Following the child's developmental and learning needs, the teachers organized their schemes consisting of each concept of their role, to form a comprehensive understanding and forms of knowledge. As they have not only listed their roles, but have elaborated how these roles are implicated in the child's learning and development, when enacted faithfully in practice – thus, exhibiting 'a higher form of mental function' (Vygotsky in Miller, 2011).

Based on the discussion above, it will be evident that the teachers in this study demonstrated a generally sound knowledge of the role of a teacher as a guide, observer and as a custodian of the environment as required by the Montessori Method. However, to ascertain the extent to which these teachers implemented these ideas in their actual practice, it was necessary to look at their actual classroom practices. A discussion of the findings in this regard is presented below.

6.2.3 How Teachers' Implement the Montessori Method

After establishing the teachers' understanding of the theoretical principles which underpin the Montessori Method and how they saw their role in the Method, a further objective of this study was to examine (a) how the teachers implemented the Montessori Method in practice, and (b) the extent to which they modified these practices in their classrooms. To accomplish the foregoing objectives this study looked specifically at the five aspects: (i) adoption of individualised lessons, (ii) use of the uninterrupted three-hour work cycle, (iii) use of

Montessori materials in these lessons, and (iv) freedom of choice the teachers allowed the children in their classrooms.

i. The Adoption of Individualised Lessons

In earlier research by Chen (2021) it was found that teachers modified the Montessori practice of individualised lessons by adopting collective lessons in the morning routine. In Chen's (2021) study 56% of the teachers stated that they have adopted collective lessons during the morning work cycle, while the remaining number of teachers conformed and implemented this principle faithfully in practice. Chen (2021) further believed that it is plausible to conclude that collective lessons were adopted by these teachers in the afternoon work cycle as well. Similarly, in a South African study, Akabor (2015) observed that in many instances teachers presented collective lessons to the whole class, rather than individualised lessons.

From the collected data in the present study, it was clear that several teachers did not adopt individualised lessons. Three of the teachers implemented collective lessons, i.e., whole class instruction, daily in their morning work cycle. A single teacher stated that s/he adopts individualised lessons in the morning cycle and collective lessons in the afternoon work cycle.

It appeared that these teachers adopted such collective lessons with the intention to teach the whole group (spanning different ages) a particular concept at the same time. Quite interestingly, according to the data presented in the first sub-section (see 6.2.1), these teachers showed a profound understanding of the principle of individualised lessons and believed that individualised lessons are of great importance as a tool to assess the individual child's level of understanding and development. However, based on the data related to how they implemented the Method, the findings revealed a 'disconnect' between the teacher's knowledge of this principle and their actual practice. The foregoing findings notwithstanding, a greater number of teachers in this study adopted individualised lessons as recommended by Montessori.

ii. The Uninterrupted Three-Hour Work Cycle

In a South African study conducted by Ubisse (2019) it was found teachers were modifying the work cycle by implementing a shorter work cycle of 45 minutes instead of three hours as recommended by the South African Montessori Association and Montessori herself. Similarly, Block (2015) found that teachers were modifying the three-hour work cycle by providing children only with a two-hour work cycle, due to inclusion of extra activities that are not part of the Montessori curricula.

The findings from the present study concurs with the foregoing research. The data revealed that only three teachers implemented the three-hour work cycle, while the majority modified the work cycle by shortening it or interrupting it with extra activities. These teachers provided the children with a work cycle of one to two and a half hours to accommodate extra-curricular activities such as collective circle time discussions and rotations between classrooms and/or curricular areas. Quite importantly, while these teachers were aware that they are interrupting the work cycle with additional activities, they believed that when the children returned to the classroom or to 'Montessori work', the three-hour requirement would be met.

iii. The use of Montessori Materials

The research by Marshall (2017) showed that teachers modified the practice of using genuine Montessori materials by adopting non-Montessori materials such as note- and workbooks for assessments. Similar findings were made by Ubisse (2019) in the South African context. In this study teachers utilised only 40% of the genuine Montessori materials, while the rest of the materials were either traditional, or self-made, materials and activities. This was also the case in the research by Abdulai (2018) who found that teachers supplemented self-made activities for number counting and identification.

The data collected for this study also showed that most of the teachers adopted activities such as traditional puzzles, self-made activities, as well as store-bought toys and games to be

used in their classrooms. These teachers also used notebooks and worksheets to provide the children with 'book work' to prepare them for the transition to traditional, state schools where they would need to meet the demands and standards of the national curriculum. However, three teachers faithfully used Montessori materials, did not supplement the classroom environment with non-Montessori materials, and believed that the Montessori materials were sufficient to satisfy the developmental needs of the children and therefore felt that there was no need to supplement the traditional Montessori materials with other materials.

iv. The Freedom of Choice the Teachers' Allowed the Children in their Classrooms

The literature reviewed earlier revealed that teachers in Montessori classrooms did restrict children's freedom of choice to some degree and in some instances even prevented the exercise of such freedom completely. Ruto-Korir and Lubbe-De Beer (2012) found that teachers limited the children's time to work with materials of choice for as long as they preferred. Similarly, the teachers in Ubisses's (2019) study also limited the children's choice to freely work with the activities for extended periods of time. In Block's (2015) study it was found that teachers even adopted authoritarian practices and prevented children from working with activities of their choice. Consonant with the preceding studies Abdulai (2018) found that children's freedom to work with materials of their choice during the work cycle was prevented by teachers, and this restriction applied to the freedom to work with their peers in pairs as well. In contrast, Akabor's (2015) study which looked at the adoption of inclusive practices in two South African Montessori classrooms found that the four teachers in the study faithfully adopted the principle of freedom of choice in their classrooms by allowing the children to choose activities, work with peers, and also to work with the materials for as long as they preferred.

Consistent with the foregoing studies, most of the teachers, i.e., ten teachers, in the present study modified the principle of freedom of choice in practice, while only four teachers fully adopted this principle. The latter group of teachers allowed learners freedom to work with activities of their choice; to work for as long as they preferred with their activities; peer

learning through collaboration; and, to participate or not in circle time. In contrast, the remaining teachers either limited or prevented the children's freedom to work with materials of their choice, and further limited the time the children were allowed to work on specific activities and the choice of activities from specific curricular areas. From Montessori's perspective, such restrictions negatively affect the children's motivation to learn independently without interference from the teacher.

An issue not addressed in the earlier literature also emerged in this study: due to the adoption of a particular type of classroom practice, different groups of children were rotating between four curricular areas daily and were prevented from moving between areas or from working in a curricular area of their choice. As a result, the children were confined to working in one area during the work cycle without exercising any freedom to exploring and choosing activities from the other curricular areas. In addition, some teachers even prevented children from freely choosing whether they wanted to participate in circle time or not.

A final issue which emerged in the present study relates to the adoption of mixed age groups in the classroom. In the interviews the teachers revealed that they did not flout this practice intentionally but because of social and parental pressure, which will be discussed below.

In sum, what is evident from the present study is that the implementation of the principles of the traditional Montessori Method in the schools and teachers included in this study, was inconsistent: a minority of teachers attempted to remain true to Montessori's recommended practices, while the majority modified these practices. The possible reasons why this is happening, are discussed in the next section.

6.2.4 Psycho-Social Factors Influencing Teachers to Modify the Montessori Method

After determining how teachers implemented and/or adapted the Montessori Method in their classrooms, this study finally examined the psycho-social factors that influenced the teachers to adopt practices inconsistent with the practices of the Montessori Method. To discuss the findings of this study on the psycho-social factors affecting teachers to modify the

Montessori Method, the final part of this chapter will be divided into separate parts and in each of these, the findings of earlier literature on the issue will be presented and this will then be followed immediately by a discussion of the findings in the present study. To accomplish the foregoing discussion, I will look at the following: (i) teachers' disagreement with the Montessori Philosophy/Theory, (ii) teachers' personal understanding of the nature of learning and development, (iii) the necessity to meet standard academic demands, and (iv) the social factors such as parental pressure, financial constraints, and children's behaviour, and its impact on the implementation of the Montessori Method.

(i) Teachers' Disagreement with the Montessori Philosophy/Theory

According to earlier research (e.g., Zener, 1994; Chaney, 1991; Hidan, 2014; Starling, 2018), despite their employment in Montessori schools and their purported acceptance of Montessori's ideas, teachers in these schools often disagreed with some of the basic principles of Montessori's thinking. Zener (1994) found that the teachers in his study misunderstood the theory and consequently lacked practical knowledge of its applications. For Zener, the consequent disagreement with Montessori resulted in cognitive conflict, and to resolve this conflict the teachers modified the recommended Montessori practices. In Chaney's (1991) study teachers disagreed with Montessori's theory and, according to Chaney, this disagreement was due to an insufficient integration of Montessori's theoretical principles into the teachers' existing cognitive schemas. The teachers in Hidan's (2014) study also disagreed with Montessori's theoretical ideas and generally displayed a poor understanding of the theory and consequently adopted very authoritarian teaching practices in their classrooms. Similarly, Starling (2018) found that the teachers in his study also disagreed with Montessori's thinking and recommended practices, and therefore had no difficulty with changing individualised lessons.

Consistent with the above research, the teachers in this study disagreed with some of Montessori's theoretical ideas, resulting in 'internal disequilibrium'. They felt that children should not be allowed full freedom within the environment and contended that children should have a structured educational routine. Furthermore, they argued that the Montessori

theoretical principles cannot always be applied in practice due to the educational needs of the 'modern child' who had 'different psycho-social characteristics' to the children of Montessori's time.

However, despite these disagreements, the teachers in the present study displayed a comprehensive understanding of the method's theoretical principles, and adapted the associated Montessori concepts into their understanding, in contrast to the teachers in the earlier studies. This 'contradiction' between their theoretical understanding and their educational practices did not lead to any evident signs of 'disequilibrium' among them when discussing the concepts emanating from the Montessori Method (see sections 6.2.1 and 6.2.2). It is reasonable to assume that to maintain their inner equilibrium, the teachers disregarded some of the Montessori directives by using the Alpha compensatory reaction proposed by Piaget (Piaget in Boom, 2009). Thus, they simply adopted a pragmatic approach to the Montessori Method. This pragmatic approach which often deviates substantially from Montessori's practices raises the obvious question whether these schools, and their teachers can legitimately claim to be 'Montessori Schools' who 'use the Montessori Method'.

(ii) Teachers' Personal Beliefs about the Nature of Learning and Development

According to Chaney (1991) teachers' beliefs about how children learn and develop were not consistent with Montessori's understanding of these processes and this consequently influenced the teachers in his study to modify the Montessori Method. Christensen (2016) found that the teachers' beliefs about the nature of education and learning were also different to Montessori's, and this caused them to modify the Method accordingly. Similarly, Abdulai (2018) stated that teachers' personal beliefs of how children learn and develop influenced them to modify the Montessori principles in their classroom practices.

In the present study, even though the teachers successfully assimilated and accommodated the recommended theoretical principles into their understanding, they nonetheless challenged Montessori's theoretical ideas of learning, and they argued that her principles are not effective enough to prompt the children's learning and development. To accommodate

their beliefs within their existing mental structures, the teachers modified their existing knowledge of the Montessori Method, which resulted in re-constructing of their knowledge to be in line with their beliefs (Piaget in Boom, 2009). Following their beliefs, the teachers consequently adopted practices which were incongruent with Montessori's Method such as whole-class lessons, prohibiting children's freedom of choice, interrupting, and limiting the work cycle, and using non-Montessori materials.

(iii) The Demand for Academic Competence

An issue which arose in this study, but which is not addressed in the earlier literature, was the teachers' strongly held belief that due to the present, pressing demand for children's academic competence for their future education, they needed to change their practices to prepare the children for mainstream primary schooling. What was evident from the data, is that these beliefs were emanating from the social context and their own teaching experience. It could therefore be argued that instead of implementing the prescribed Montessori theoretical concepts, the teachers adopted practices based on their experience of the demands from the social environment (Vygotsky, 1980; 1981; 1986).

(iv) Social Factors influencing the Modification of the Montessori Method

a) Parental Demands

The literature reviewed for this study identified various social factors such as parental demands, children's disruptive behaviour, and financial constraints as significant determinants of the teachers' decisions to modify the Montessori Method. Siswanto and Kuswandono (2020) showed that while the teachers internalised the Montessori philosophical ideas successfully, parental demands and complaints compelled them to modify the Montessori Method by adopting assessment workbooks as proof of children's progress. In a Kenyan study, Ruto-Korir and Lubbe-De Beer (2012) found that teachers were modifying their practices and adopting a traditional schooling approach also due to parental demands

to prepare children for the traditional primary school. Quite interestingly, Christensen (2016) observed that despite parents' desire to place their children in a Montessori school, they did not have any basic knowledge and understanding of the Montessori practices. Consequently, they pressured the Montessori teachers to modify their practices.

In agreement with the foregoing literature, the findings in this study indicate that parental demands were a significant social factor exerted on teachers to modify the Montessori practices. The teachers were pressured by parental demands and consequently re-constructed their knowledge of some of Montessori's concepts to accommodate the parental demands, and to maintain their existing 'equilibrium' (Piaget in Boom, 2009). The knowledge re-construction resulted in their re-conceptualisation of Montessori's concepts. This in turn, prompted these teachers to adopt incongruent practices such as the adoption of workbooks so that parents could track their children's academic progress; opposition to the mixed aged groups in the classroom which parents believed could encourage bullying; and parental demands on teachers' time which disrupted the work cycle. Furthermore, in agreement with Christensen's (2016) view, the teachers in the present study maintained that the parents did not understand the Montessori Method and its related principles, and due to this lack of understanding they pressurised teachers into adopting non-Montessori practices.

b) Children's Behaviour

In earlier empirical studies, it was found that children's disruptive behaviour significantly influenced teachers to modify the Montessori Method's principles in their practice. Kural and Ceylan (2022) looked at the effects that children's misbehaviour has on the teachers' implementation of Montessori practices. They found that the teachers in their study adopted punitive practices, such as limiting children's freedom of choice, when they misbehaved during the work cycle.

In agreement the earlier research, the teachers in the present study cited children's disruptive behaviour as a crucial factor in the implementation of the Montessori principles in practice. This behaviour created disorderliness and interruptions during the work cycle, which

resulted in teachers adjusting and shortening the work cycle. In addition, the teachers adopted authoritarian approaches to maintain discipline in the classroom and this often entailed limiting the children's freedom of choice. This social influence (children's disruptive behaviour) in the teaching environment prevented these teachers from implementing their knowledge of the Montessori's concept of 'freedom of choice' in their classroom practice. Consequently, they have relied on the use of spontaneous, concrete concepts, as punitive and teacher guided activities acquired during their everyday experience in their classroom practices (Vygotsky, 1986).

This issue of children's misbehaviour under conditions of 'complete freedom' appears not to have featured significantly in Montessori's thinking and it might be argued that the children who Montessori worked with may have been far more 'docile' and 'accepting of authority' than children in the twenty-first century. The latter observations raise important questions about the implementation of aspects of Montessori's principles and practices in the contemporary world.

c) Financial Constraints

A final factor identified in the literature which influenced teachers (and schools) to modify Montessori's Method was the financial constraints experienced by the schools and the teachers. For example, Starling (2018) found that due to financial constraints, teachers adopted non-Montessori materials such as self-made activities and store-bought toys in their teaching. In a similar way, due to financial constraints the teachers (and the schools) included in this study substituted the authentic Montessori materials with non-Montessori materials. In addition, given the lack of financial resources one of the schools was only able to equip four of their classrooms with Montessori materials. Lastly, in at least one of the schools, two of the teachers were required to rotate a fairly large number of pupils between five curricular areas. The foregoing findings raises questions about the cost of a Montessori education and whether it is financially viable in the contemporary context.

From the foregoing discussion of the findings of the present study, several key conclusions can be made. First, the teachers in this study demonstrated a profound understanding of Montessori's philosophical ideas and the educational practices entailed by the Montessori Method. Second, notwithstanding their understanding of Montessori's thinking, most of the teachers (and the schools) adapted, modified, and sometimes even rejected some of the core principles of the Method in their practices, while a minority attempted to remain faithful to Montessori's ideas and practices. Third, despite designating themselves as 'Montessori Schools', the teachers and schools in this study were affected by various social and psychological factors to modify, to varying degrees, the accepted Montessori principles, and practices. This 'non-adherence' to the original Montessori Method raises a very important question: Can these schools be considered 'authentic Montessori schools' or are they schools which adopt only a general 'Montessori ethos'. In the conclusion, this issue will be discussed in further detail.

6.3 Conclusion

To address and identify the gap in the existing research, this study attempted to provide a comprehensive account of how the Montessori Method is understood, adopted, and implemented by 14 pre-primary Montessori teachers from six private schools in Gauteng, South Africa. To contextualise the study, a detailed exposition of Montessori's theoretical ideas and the Montessori Method were provided. This was then followed by a relatively detailed review of the extant literature related to the fundamental research question which motivated this study. Following this review, the findings of the research were presented and discussed in detail, and several important conclusions were derived from these findings. To reiterate the most significant finding is that notwithstanding their obvious understanding and appreciation of Montessori's ideas and practices, most of the teachers (and the schools) included in this study modified the 'authentic Montessori practices' in a variety of ways for numerous reasons. This modification leads to the question of whether the relevant schools can indeed be considered 'Montessori Schools'. In addition, this study raises issues such as, what would constitute an 'authentic Montessori School' and relatedly, to what extent can (or should) contemporary teachers in Montessori schools remain constrained by the original

Montessori philosophy and Method. To answer these questions the next part of this concluding chapter will make some recommendations for the future of Montessori education in South Africa.

Recommendations

First, one must recognise that there is always some degree of 'disconnect' between any theory and its implementation in practice. As such, to insist that a theory must be implemented in toto in practice is questionable because there may be legitimate reasons for modifying the theoretical ideas and its related practices as historical and social conditions change. In other words, some of Montessori's ideas may be challenged and even modified as contemporary conditions necessitate. Second, in view of the foregoing reality, it should be asked whether the label 'Montessori school' is a legitimate one to attach to every school which claims to be based on Montessori's philosophy and Method. It is necessary to ask whether all schools which use this label should be formally accredited by the South African Montessori Association which is ostensibly responsible for promoting the Montessori philosophy and Method. This suggestion for regulation and formal training is obviously a difficult one to implement because the Montessori name and Method is not copyrighted and therefore may be used without the necessary regard for all of Montessori's ideas and practices. As such, it is this writer's contention that schools should provide parents with a clear indication about their adherence to Montessori's ideas and Method, or, to show that they simply adopt some of the principles of the Method and that the school concerned merely has, what may be called, a 'Montessori ethos' and that it is not a genuine 'Montessori School'. Third, if the label 'Montessori teacher' is accepted by those who work in the 'Montessori schools', it would follow that they would need to be trained formally and accredited by a body such as the South African Montessori Association. However, as was indicated previously, formal training of Montessori teachers cannot be enforced due to the essentially 'unregulated' nature of the Montessori enterprise in South Africa. Consequently, this writer believes that schools who label themselves as 'Montessori Schools' should be more open in revealing the Montessori training (if any) of the teachers in their schools. Fourth, in view of the parental demands for 'academic competence' and formal reports on their children's

progress in a Montessori school, it is essential that parents are educated beforehand about the nature of an authentic Montessori education so that they can make better informed decisions about the enrolment of their children in Montessori schools. Lastly, it should be accepted that an authentic Montessori education which includes the free availability of genuine Montessori materials for all children enrolled in the school, and teachers who are fully trained in the Montessori Method, requires significant financial investment, and would therefore place a significant financial burden on parents who want their children to be educated in an authentic Montessori school.

Limitations of the Study

The scope of the study was limited to 14 teachers from six Montessori schools in Gauteng and it is therefore not generalisable to the nature of the practices in Montessori schools in Gauteng, or even to the country. In response to this limitation, Ary et al. (2018, p. 507) contend that:

> Although the qualitative researcher typically does not have generalizability as a goal, it is his/her responsibility to provide sufficiently rich, detailed, thick descriptions of the context so that potential users can make the necessary comparisons and judgements about similarity and hence transferability.

So, while the findings of this study may not be generalizable, it has attempted to provide a "rich and detailed description", as recommended by Ary, et al., (2018, p. 507) of the practices of teachers in a select number of Montessori schools.

In addition to its lack of generalizability, the execution of this study was also affected by the restrictions placed on the researcher to conduct classroom observations due to the coronavirus pandemic sweeping South Africa and the world in 2020 to 2022. Schools were closed due to the pandemic and due to positive covid cases, data collection from classroom observations was postponed and rescheduled for when the schools re-opened. The closure affected the initially planned data collection period of one-and-a-half months to four months data collection period.

The restriction on classroom observations also extended to the execution of the initially planned, face-to-face interviews. While half of the interviews were conducted as initially planned, the remaining interviews were postponed either because of a lack of teacher availability or because of the school holidays. Despite these limitations the interviews were resumed after the interruptions and were conducted as initially planned.

A final limitation of this study was the difficulty of obtaining documents from teachers and schools. Teachers' diaries, the schools' curricula, policy, and newsletters were either not available upon request, or not granted for perusal. In addition, due to the newly introduced Protection of Personal Information (POPI) act, the teachers could not provide the researcher with personal information related to their learners. The documents that were provided had very little (if any) relevance to the study's questions and objectives and was consequently disregarded by the researcher. As such, the originally envisioned data collection methods, and the triangulation of the data was severely hindered. However, due to the extensive data acquired from the interviews and classroom observations, this study still achieved its objectives, and answered its basic research questions.

Recommendations for Future Research

Very little research has been conducted on the understanding, implementation, and adoption of the Montessori Method by teachers in South Africa. While this study intended to contribute to the limited body of research on Montessori education in South Africa, further research on a larger scale is required to determine how the Montessori Method is implemented and adopted by teachers in the South African context. Such research will also need to look at, among others, the differences between Montessori programmes offered in South Africa; the nature and extent of training provided to teachers who get employed in Montessori schools; the necessity, if any, of modifying Montessori's original ideas and practices to accommodate changing social and historical conditions, and, very importantly, whether training in the Montessori Method affect and/or change these teachers' prior knowledge and beliefs about learning and development as it was understood by Maria Montessori.

References

Alghamdi, A. A. (2016*). Examining preschool teachers' subjective beliefs toward developmentally appropriate practices: A Saudi Arabian perspective* (Doctoral dissertation, The University of Alabama at Birmingham).

Almajed, M. A. (2020). Teachers' Perceptions of Supporting Pre-School Children in Self-Learning in Montessori Classrooms: A Case Study of Three Saudi Pre-Schools. *Multi-Knowledge Electronic Journal for educations and Science Publications, 3*(37), 1-21.

Atli, S., Korkmaz, A. M., Tastepe, T., & Koksal Akyol, A. (2016). Views on Montessori Approach by Teachers Serving at Schools Applying the Montessori Approach. *Eurasian Journal of Educational Research, 16*(66), 123-138.

Akabor, S. (2015). *Inclusive pedagogical practices found in a Montessori primary classroom: a case study in Gauteng* (Unpublished Masters Dissertation, University of the Witwatersrand, Johannesburg).

Ak, İ. S. (2019). *Investigating the views of Montessori preschool teachers on inclusive education in Montessori approach* (Unpublished Master's thesis, Middle East Technical University, Ankara).

Almulla, A. (2018). Teachers' and students' perceptions of the academic and socio-emotional benefits of peer tutoring*. Journal of Advances in Humanities and Social Sciences, 4*(1), 1-12.

AuCoin, D., & Berger, B. (2021). An expansion of practice: special education and Montessori public school. *International Journal of Inclusive Education,* 1-20.

Alwi, S. K. K., Zaman, Z., Ghaffar, R. B., Tabasum, S., & Hasan, S. W. (2021). Multi-Age Grouping In a Montessori Classroom Effects Positively On A Child's Social And Emotional Development. *Multicultural Education, 7*(4), 161-167.

Ackerman, D. J. (2019). The Montessori preschool landscape in the United States: history, programmatic inputs, availability, and effects. *ETS Research Report Series, 2019*(1), 1-20.

Abu, T. J. (2012). *Montessori education in nurseries in England: two case studies* (Doctoral dissertation, Bangor University, London).

Aljabreen, H. (2017). *A comparative multi-case study of teacher roles in US Montessori preschool and Saudi public preschool* (Doctoral dissertation, Kent State University).

Abdulai, A. H. M. E. D. (2018). Examining the Montessori Model of Early Childhood Education in Ghana: The Gap between Policy and Practice. *Journal of Education and Practice, 9*(2), 56-68.

Adefunke, T., & Olatunde, P. (2015). Mathematics Learning, Montessori Approach to Teaching/Learning in Early Childhood Education: A Case Study of Ifo Local Government Area of Ogun State Nigeria. *International Journal of Business, Humanities and Technology, 5*(6), 45-54.

Ary, D., Jacobs, L. C., Irvine, C. K. S., & Walker, D. (2018). *Introduction to research in education.* Boston: Cengage Learning.

Atmore, E., van Niekerk, L. J., & Ashley-Cooper, M. (2012). Challenges facing the early childhood development sector in South Africa. *South African Journal of Childhood Education, 2*(1), 120-139.

AMERICAN MONTESSORI SOCIETY (AMS), (2021, October 15). *History of Montessori.* Retrieved from: https://amshq.org/

Bărbieru, I. T. (2016). The role of the educator in a Montessori classroom. *Romanian Journal for Multidimensional Education, 8*(1), 107-123.

Blair, C., & Raver, C. C. (2015). School readiness and self-regulation: a developmental psychobiological approach. *Annual Review of Psychology, 66*(1), 711–731.

Boom, J. (2009). *Piaget on equilibration. The Cambridge companion to Piaget*. New York: Cambridge University Press.

Beck, L. (2018). *The Impact of Choice on Normalization and Academic Achievement* (Masters dissertation, University of Wisconsin, River Falls).

Burts, D. C., Hart, C. H., Charlesworth, R., Fleege, P. O., Mosley, J., & Thomasson, R. H. (1992). Observed activities and stress behaviours of children in developmentally appropriate and inappropriate kindergarten classrooms. *Early Childhood Research Quarterly, 7*(2), 297-318.

Bruwer, M., Hartell, C., & Steyn, M. (2014). Inclusive education and insufficient school readiness in Grade 1: Policy versus practice. *South African Journal of Childhood Education, 4*(2), 18-35.

Biersteker, L. & Dawes, A. (2010). Early childhood development. *Human resources development review 2008: education, employment and skills in South Africa*. Cape Town: HSRC Press.

Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal, 9(*2), 27-41.

Biersteker, L., Dawes, A., Hendricks, L., & Tredoux, C. (2016). Centre-based early childhood care and education program quality: A South African study. *Early Childhood Research*

Quarterly, 100(36), 334-344.

Bloomberg, L. D., & Volpe, M. (2006). *Completing your qualitative dissertation: A roadmap from beginning to end.* Thousand Oaks, CA: Sage Publications.

Benton, T., & Craib, I. (2010). *Philosophy of social science: The philosophical foundations of social thought.* London: Red Globe Press.

Barker, C. (2012). *Cultural studies: Theory and practice.* London: Sage Publications.

Bunnag, D. (2000*). Classroom adaptation: a case study of a Montessori school*. Descriptive report. Retrieved 02/03/21 from ERIC (ED470882).

Brown, K. E. (2016). *Evaluating the effectiveness of Montessori reading and Math instruction for third grade African American students in urban elementary schools* (Doctoral dissertation, The University of North Carolina at Charlotte).

Block, C. R. (2015). Examining a public Montessori school's response to the pressures of high-stakes accountability. *Journal of Montessori Research, 1*(1), 42-54.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology, 3*(2), 77-101.

Caldwell, S. (2018). Variations in implementation fidelity in Montessori Education. *Montessori Leadership, 15*(4), 12-15.

Casey, F. (2018). *Montessori Education in China.* (Doctoral dissertation, Worcester Polytechnic Institute, Worcester).

Christensen, O. (2016). Proving Montessori: Identity and dilemmas in a Montessori teacher's lived experience. *Journal of Montessori Research, 2*(2), 35-48.

Cohen, J. (2016). *A case study of Montessori early childhood and Head Start curricular alignment.* (Master's Thesis, Saint Mary's College, California).

Christensen, O. T. (2018). *Transforming the Transformation: A post-intentional phenomenological exploration of Montessori teachers engaging in anti-bias and anti-racist teacher self-reflection.* (Doctoral dissertation, University of Minnesota, Minnesota).

Culclasure, B., Fleming, D. J., Riga, G., & Sprogis, A. (2018). *An evaluation of Montessori education in South Carolina's public schools.* The Riley Institute at Furman University. Greenville, SC.

Chattin-McNicholas, J. (1992). *Montessori Programs in Public Schools*. ERIC Digest, EDO-PS-7. Retrieved from ERIC (ED348165).

Chattin-McNichols, J. (1998). *The Montessori controversy.* New York: Delmar Publishers.

Cossentino, J. (2010). Following all the Children: *Early Intervention and Montessori: Montessori Life, 22*(4), 38-45.

Corbin, J., & Strauss, A. (2014). *Basics of qualitative research: Techniques and procedures for developing grounded theory.* Thousand Oaks, CA: Sage Publications.

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches.* Thousand Oaks, CA: Sage.

Cossentino, J. (2009). Culture, craft, & coherence: The unexpected vitality of Montessori teacher training. *Journal of Teacher Education, 60*(5), 520-527.

Chaney, C. (1991). *Teacher beliefs and practices in two models of early childhood education.*

(Unpublished Doctoral dissertation, The Pennsylvania State University, Philadelphia).

Chen, A. (2021). Exploration of implementation practices of Montessori education in mainland China. *Humanities and Social Sciences Communications, 8*(1), 1-10.

Daoust, C. (1994). *A comparison of the California public school and Montessori elementary curriculums.* (Unpublished Master's Thesis, Saint Mary's College of California, Berkeley).

Daoust, C. J. (2004). *An examination of implementation practices in Montessori early childhood education.* (Unpublished Doctoral Thesis, University of California, Berkeley).

Degirmenci, G. Y., Kucuk, C. K., & Demircioglu, H. (2018). What Does It Mean to be a Montessori Teacher and why Is It Preferred? *Çocuk ve Gelişim Dergisi, 2*(2), 39-50.

Department of Education. (2001a). *The national audit of ECD provisioning in South Africa.* Department of Education, Pretoria.

Department of Education. (2001b). *Education White Paper 5 on Early Childhood Education*. Pretoria, South Africa: Sol Plaatjie House.

Department of Education (DoE). (2001c). *Education White Paper 5: Meeting the Challenge of Early Childhood Development in South Africa*. Pretoria: Department of Education.

Department Statistics South Africa (STATS SA). (2019). *Statistical Release: General Household Survey*. Pretoria, South Africa.

Department of Basic Education. 2008. National reading strategy. Pretoria: DoE

Department of Basic Education. 2011a. *Curriculum and Assessment Policy Statement (CAPS)-Foundation Phase Home Language Grades R-3*. Pretoria: Government Press.

Department of Basic Education. 2011b. *Universal Access to Grade R. Policy Framework, August 2011*. Pages 1-11.

Dogru, S. S. Y. (2015). Efficacy of Montessori education in attention gathering skill of children. *Educational Research and Reviews, 10*(6), 733-738.

Dereli Iman, E., Danisman, S., Akin Demircan, Z., & Yaya, D. (2019). The Effect of the Montessori Education Method on Pre-School Children's Social Competence-Behaviour and Emotion Regulation Skills. *Early Child Development and Care, 189*(9), 1494-1508.

Ender, D., & Ozcan, D. (2019). Self-efficacy perceptions of teachers on using the Montessori method in special education in North Cyprus. *Cypriot Journal of Educational Sciences, 14*(4), 652-660.

Essa, E. L., & Burnham, M. M. (2019). *Introduction to early childhood education*. London: Sage Publications.

Faryadi, Q. (2009). Performance evaluation of Montessori instruction to teach English as a second Language: An experimental research. *MASAUM Journal of Open Problems in Science and Engineering, 1*(2), 81-85.

Fleming, D. J., Culclasure, B., & Zhang, D. (2019). The Montessori model and creativity. *Journal of Montessori Research, 5*(2), 1-14.

Fagan, J. L. (2014). *Enhancing phonological awareness in kindergarten and first grade Montessori students.* (Unpublished Master's Thesis, California State University, Sacramento).

Goerg, S. M. (2016). *The effects of purposeful physical activity on student concentration in a Montessori Children's House.* (Published Master's Thesis, St. Catherine University, St. Paul, Minnesota

Golbeck, S. L. (2001). Instructional models for early childhood: In search of a child-regulated/teacher-guided pedagogy. *In S. Golbeck (Ed.), Psychological perspectives on early childhood education: Reframing dilemmas in research and practice*. Mahwah, New Jersey: Lawrence Erlbaum.

Grazzini, C. (2004). The Four Planes of Development. *NAMTA Journal, 21*(2), 27-64.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. *Handbook of Qualitative research, 2*(6), 163-194.

Ghatani, B. (2014). *Perception of Pre-Primary Level Teachers on Montessori Method In English Language Teaching* (Doctoral dissertation, Nepal's Faculty of Education, Kathmandu).

Hedeen, T. (2005). Dialogue and democracy, community and capacity: Lessons for conflict resolution education from Montessori, Dewey, and Freire. *Conflict Resolution Quarterly, 23*(2), 185-202.

Hidan, N. H. Q. (2014). *Teacher's beliefs on classroom management styles: a case study of a Montessori kindergarten* (Unpublished Masters dissertation, University of Technology, Klang Valley).

Huxel, A. C. (2013). Authentic Montessori: The Teacher Makes the Difference. *Montessori Life, 25*(2), 32.

Hiles, E. (2018). Parents' reasons for sending their child to Montessori schools. *Journal of Montessori Research, 4*(1), 1-13.

Irving, S. A. C. (2016). *Authentic Montessori Education: Join the Conversation.* (Masters Dissertation, St. Catherine University, St. Paul).

Isaacs, B. (2018). *Understanding the Montessori approach: Early years education in practice.* New York: Routledge.

Isaacs, B. (2019). Montessori today. *Early Years Educator, 21*(8), 38-45.

Jackson, R. L., Drummond, D. K., & Camara, S. (2007). What is qualitative research?. *Qualitative research reports in communication, 8*(1), 21-28.

Johnson, J. E., Sevimli-Celik, S., Al-Mansour, M. A., Tuncdemir, T. B. A., & Dong, P. I. (2019). Play in early childhood education. *In Handbook of research on the education of young children 11*(4), 165-175.

Jamieson, N. Y. (2005). *The contribution of the Montessori approach to multisensory approaches to early learning disabilities.* (Unpublished Masters of Education. University of the Witwatersrand. Johannesburg).

Kumar, R. (2018). *Research methodology: A step-by-step guide for beginners*. London: Sage Publications.

Krause, J. M. (2015). *What Makes a School Montessori?.* (Doctoral dissertation, University of Wisconsin-River Falls).

Kayılı, G. (2018). The effect of Montessori method on cognitive tempo of kindergarten children. *Early Child Development and Care, 188*(3), 327-335.

Kurt, G. (2017). Implementing the flipped classroom in teacher education: Evidence from Turkey. *Journal of Educational Technology & Society, 20*(1), 211-221.

Kayili, G., & Gonen, A. (2018). The Effect of Montessori Materials on Fine Motor Skills of Children with Moderate Mental Retardation. *Journal of Education for Life, 32*(2), 40-52.

Kocabas, H. U., & Bavli, B. (2021). The Montessori Educational Method: Communication and Collaboration of Teachers with the Child. *Participatory Educational Research, 9*(1), 443-462.

Kemp, S. J. (2013). Exploring the use of learner-focused teaching approaches in different academic disciplines. *Journal of Further and Higher Education, 37*(6), 804-818.

Kaymakamoglu, S. E. (2018). Teachers' Beliefs, Perceived Practice and Actual Classroom Practice in Relation to Traditional (Teacher-Centred) and Constructivist (Learner-Centred) Teaching. *Journal of Education and Learning, 7*(1), 29-37.

Kvale, S., & Brinkman, S. (2015). *Interviews: Learning the craft of qualitative interviewing.* Thousand Oaks, CA: Sage.

Kural, E., & Ceylan, R. (2022). Child Misbehaviour in an Early Childhood Classroom: Montessori Educators' Views and Practices. *Southeast Asia Early Childhood, 11*(1), 1-17.

Lake, N. (2016). *Teachers' teaching strategies in a sample of South African inclusive Classrooms* (Unpublished Doctoral Dissertation, University of the Witwatersrand, Johannesburg).

Lillard, A. S., & McHugh, V. (2019). Authentic Montessori: The Dotteressa's view at the end of her life part II: The teacher and the child. *Journal of Montessori research, 5*(1), 19-34.

Lincoln, Y. S., & Guba, E. G. (1982*). Establishing Dependability and Confirmability in Naturalistic Inquiry Through an Audit*. Thousand Oaks, CA: Sage Publications.

Lillard, A. S. (2012a). Preschool children's development in classic Montessori, supplemented Montessori, and conventional programs. *Journal of School Psychology, 50*(3), 379-401.

Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry.* Beverly Hills: Sage.

Lillard, P. P. (2012b). *Montessori: A modern approach.* New York: Schocken Books.

Lillard, A. S. (2016). *Montessori: The science behind the genius*. Oxford: University Press.

Lillard, A., & Else-Quest, N. (2006). The early years: Evaluating Montessori education. *Science Journal, 313*(5795), 1893-1894.

Lillard, A. S. (2019). Shunned and admired: Montessori, self-determination, and a case for radical school reform. *Educational Psychology Review, 31*(4), 939-965.

Lillard, A. S. (2013). Playful learning and Montessori education. *NAMTA Journal, 38*(2), 137-174.

Lillard, A. S., & Heise, M. J. (2016). An intervention study: Removing supplemented materials from Montessori classrooms associated with better child outcomes. *Journal of Montessori Research, 2(*1), 16-26.

Liebfreund, M. D., & Amendum, S. J. (2017). Teachers' experiences providing one-on-one instruction to struggling readers. *Reading Horizons: A Journal of Literacy and Language Arts, 56*(4), 5-24.

Liu, F., & Maitlis, S. (2010). Nonparticipant observation. *Encyclopedia of case study research, 17*(2) 610-612.

Montessori Asia, (2021, October 16). *Montessori in Asia.* Retrieved from: https://montessori.asia/

Montessori Society AMI (UK), (2021, October 16). *Montessori Education.* Retrieved from: https://www.montessorisociety.org.uk/

Maguire, M., & Delahunt, B. (2017). Doing a thematic analysis: A practical, step-by-step guide for learning and teaching scholars. *All Ireland Journal of Higher Education, 9*(3) 351-365.

Mallett, J. D., & Schroeder, J. L. (2015). Academic achievement outcomes: A comparison of Montessori and non-Montessori public elementary school students. *Journal of Elementary Education, 25*(1), 39-53.

Maxwell, J. A. (2008). Designing a qualitative study. *The SAGE handbook of applied social research methods, 2*(7), 214-253.

Maxwell, J. A. (2013). *Qualitative research design: An interactive approach. Applied Social Research Methods Series.* Los Angeles: SAGE Publications.

Modise, M. R. (2019). Pedagogical Leadership in Early Childhood Development: A Means for Quality Practices through Professional Training. *Bulgarian Comparative Education Society, 17*(3), 117-123.

Marcon, R. A. (1992). Differential effects of three preschool models on inner-city 4-year-olds. *Early Childhood Research Quarterly, 7*(4), 517-530.

Marcon, R. A. (1999). Differential impact of preschool models on development and early learning of inner-city children: A three-cohort study. *Developmental psychology, 35*(2), 358-375.

Marshall, C. (2017). Montessori education: a review of the evidence base. *Science of Learning, 2*(1), 1-9.

Mason, M. (2010). Sample size and saturation in PhD studies using qualitative interviews. *In Qualitative Forum: qualitative social research, 11*(1), 1-19.

McMillan, J., & Schumacher, S. (2016*). Qualitative Data Analysis and Narrative Structure. Research in Education: Evidence-based Inquiry*. Cape Town: Pearson.

McMillan, J. H., & Schumacher, S. (1997). *Research in education: A conceptual introduction.* New York: Longman.

Merriam, S. B. (2002). Introduction to qualitative research. *Qualitative research in practice: Examples for discussion and analysis, 1*(1), 1-17.

Montessori, M. (1916). *The Advanced Montessori Method II.* England: Clio Press.

Montessori, M. (1966). *The Secret of Childhood*. New York: Ballentine Books.

Montessori, M. (1964). *The Montessori Method*. New York: Schocken Books.

Montessori, M. (1965). *Dr Montessori's Own Handbook*. New York: Schocken Books.

Montessori, M. (1967). *The Absorbent Mind.* New York: Dell.

Montessori, M. M. (1996). *Education for Human Development Understanding Montessori.* New York: Schocken Books.

Montessori, M. (2012). *The 1946 London lectures.* Amsterdam, the Netherlands: Montessori-Pierson Publishing.

Montessori, M. (2013). *The 1913 Rome lectures.* Amsterdam: Montessori-Pierson Publishing.

Montessori, M. (2014). *Spontaneous activity in education. Montessori Helper.* New York: Stokes Company Publishers.

Murray, A. K., Daoust, C. J., & Chen, J. (2019). Developing Instruments to Measure Montessori Instructional Practices. *Journal of Montessori Research, 5*(1), 50-74.

Moustakas, C. (1994). *Phenomenological Research Methods*. London: Sage Publications Ltd.

Murray, A. K. (2008). *Public perceptions of Montessori education* (Doctoral dissertation, University of Kansas). Available from ProQuest Dissertations & Theses Global (UMI No. 3297628).

Murray, A. (2012). Public knowledge of Montessori education. *Montessori Life, 24*(1), 18-21.

Miller, R. (2011). *Vygotsky in perspective.* United Kingdom: Cambridge University Press.

Moffitt, T. E., Arseneault, L., Belsky, D., Dickson, N., Hancox, R. J., Harrington, H. L., et al. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the National Academy of Sciences, 108*, 2693–2698.

Nwosu, A. J. (2021). Understanding Montessori Education, Its Implementation to Revised Nine Year Basic Education Curriculum. *Journal of Educational Research and Policy Studies, (2)*200-209.

Nel, M. (2019). Voices from the field: Early Childhood inclusion in South Africa. *Young Exceptional Children, 22*(1), 3-5.

Ngulube, P. (2015). Trends in research methodological procedures used in knowledge management studies. *African Journal of Library, Archives and Information Science, 25*(2), 125-143.

Outlaw, B. A., Keene, K. A., & Downing, G. A. (2018). Students' experiences in an undergraduate mathematics class: Case studies from a learner-centred precalculus class. *Conference Papers--Psychology of Mathematics & Education of North America 25*(8), 986-

989.

Onwuegbuzie, A. J., & Leech, N. L. (2007). Sampling designs in qualitative research: Making the sampling process more public. *Qualitative Report, 12*(2), 238-254.

Omona, J. (2013). Sampling in qualitative research: Improving the quality of research outcomes in higher education. *Makerere Journal of Higher Education, 4*(2), 169-185.

Onurkan Aliusta, G., & Ozer, B. (2017). Student-centred learning (SCL): Roles changed. *Teachers and Teaching: Theory and Practice, 23*(4), 422-435.

Ohman, A. (2005). Qualitative methodology for rehabilitation research. *Journal of Rehabilitation Medicine, 37*(5), 273-280.

Piaget, J. (1969). The problem of common mechanisms in the human sciences. *In Le domaine humain/The human context.* Springer: Dordrecht.

Piaget, J. (1985). *The equilibration of cognitive structure: the central problem of intellectual development.* Chicago: The University of Chicago Press.

Plotner, M., Over, H., Carpenter, M., & Tomasello, M. (2015). The effects of collaboration and minimal-group membership on children's prosocial behaviour, liking, affiliation, and trust. *Journal of Experimental Child Psychology, 139,* 161-173.

Parrott, H. M., & Cohen, L. E. (2021). Advantages of mixed-age free play in elementary school: perceptions of students, teachers, and parents*. International Journal of Play, 10*(1), 75-92.

Pickering, A. (2014). *Breaking the circle of one: Reflection in Montessori early childhood centres in Aotearoa New Zealand.* (Unpublished Master's Thesis, Victoria University,

Wellington).

Petersen, S. E., & Posner, M. I. (2012). The attention system of the human brain: 20 years after. *Annual Review of Neuroscience, 35*(1), 73–89.

Pretorius, E. J., & Klapwijk, N. M. (2016). Reading comprehension in South African schools: Are teachers getting it, and getting it right?. *Per Linguam: A Journal of Language Learning, 32(*1), 1-20.

Polly, D., Margerison, A., & Piel, J. A. (2014). Kindergarten teachers' orientations to teacher-centred and student-centred pedagogies and their influence on their students' understanding of addition. *Journal of Research in Childhood Education, 28*(1), 1-17.

Patten, M., & Bodden, A. (2019*). Physical Activity Improving Executive Functioning Behaviours in Montessori Children Ages 3-12*. (Published Master's Thesis, St. Catherine University, St. Paul).

Ruto-Korir, R., & Lubbe-De Beer, C. (2012). The potential for using visual elicitation in understanding preschool teachers' beliefs of appropriate educational practices. *South African Journal of Education, 32*(4), 393-405.

Reed, Y., Dixon, K., Biesman-Simons, C., & Pretorius, E. (2020). Pitfalls and possibilities in *Writing-Journal of the Reading Association of South Africa, 11*(1), 1-9.

Rathunde, K. (2014). Understanding optimal school experience: Contributions from Montessori education. *Teachers College Record, 116*(13), 253-274.

Ragin, C. C. (1994). *Constructing social research.* Thousand Oaks, CA: Pine Forge Press.

Seldin, T., & Epstein, P. (2003). *The Montessori way: An education for life*. Florida: The Montessori Foundation.

Starling, D. D. (2018). *Fidelity of Implementation of an Urban Elementary Montessori Kindergarten Program* (Unpublished Doctoral Dissertation, Walden University, Minneapolis).

Scott, D., & Morrison, M. (2006). *Key ideas in educational research*. New York: Continuum International Publishing Group.

Shivji, M. (2016). *The Effects of Movement Interventions on Focus and Concentration in Toddler Montessori Classrooms.* (Published Master's Thesis, St. Catherine University, St. Paul, Minnesota).

Shivakumara, K., Dhiksha, J., & Nagaraj, O. (2016). Efficacy of Montessori and traditional method of education on self-concept development of children. *International Journal of Educational Policy Research and Review, 3*(2), 29-35.

Stringer, E. T. (2007). *Action research Third edition*. Thousand Oaks, CA: Sage Publications.

Stringer, E. T. (2008). *Action research in education*. Upper Saddle River, NJ: Pearson Prentice Hall.

Salassa, M. (2018). Teachers Who Do Not Teach. To Be a Teacher in the Montessori Elementary Learning Environment. *Elementary Education in Theory and Practice, 13*(1), 29-67.

Spaull, N., Pretorius, E., & Mohohlwane, N. (2020). Investigating the comprehension iceberg: Developing empirical benchmarks for early-grade reading in agglutinating African languages. *South African Journal of Childhood Education, 10*(1), 1-14.

Spaull, N., & Pretorius, E. (2019). Still falling at the first hurdle: Examining early grade reading in South Africa. *In South African Schooling: The Enigma of Inequality.* DOI: 10.1007/978-3-

030-18811-5.

Sibanda, L. (2017). Grade 4 learners' linguistic difficulties in solving mathematical assessments. *African Journal of research in Mathematics, Science and Technology education, 21*(1), 86-96.

Stake, R. E. (2013). *Multiple case study analysis*. London: Guilford Press.

Stipek, D., Feiler, R., Daniels, D., & Milburn, S. (1995). Effects of different instructional approaches on young children's achievement and motivation. *Child development, 66*(1), 209-223.

Smith, T. L. (1912). *The Montessori System in theory and practice: An introduction to the pedagogic methods of Maria Montessori*. New York: Harper & brothers.

South African Montessori Association (SAMA), (2021, October 17). *History of SAMA*. Retrieved from: https://samontessori.org.za/about-us/

South African Montessori Association (SAMA), (2021, October 17). *Montessori Curriculum*. Retrieved from: https://samontessori.org.za/about-us/

Siswanto, I. L., & Kuswandono, P. (2020). Understanding Teacher Identity Construction: Professional Experiences of Becoming Indonesian Montessori Teachers. *Indonesian Journal of English Language Teaching and Applied Linguistics, 5*(1), 1-16.

The Montessori School Association (MSA), (2021, October 16). *Independent Schools Yearbook*. Retrieved from: http://www.isyb.community.bloomsbury.com/?id=2586

Thayer-Bacon, B. (2012). Maria Montessori, John Dewey, and William H. Kilpatrick. *Education and Culture, 28*(1), 3-20.

Tobin, J. (2005). Quality in early childhood education: An anthropologist's perspective. *Early Education and Development, 16*(4), 421-434.

Torrence, M., & Chattin-McNichols, J. (2004). Montessori education today. *Approaches to early childhood education, 4*(3), 181-219.

Ubisse, A. F. (2019). *A formative evaluation of LPC's Montessori Preschool Programme* (Unpublished Master's thesis, Cape Town University, Cape Town).

Van der Gaag, J., & Putcha, V. (2015). Investing in Early Childhood Development: What is Being Spent, and What Does it Cost?. *Brookings Global Working Paper Series*. Available from ProQuest (UMI No. 1787808048).

Vygotsky, L. S. (1978). *The collected works of LS Vygotsky: The fundamentals of defectology.* New York: Plenum Press.

Vygotsky, L. S. (1981). 'The genesis of higher mental functions' In J.V. Wertsch (Ed.) *The concept of activity in Soviet psychology.* New York: Sharpe.

Vygotsky, L. S., van der Veer, R. E., Valsiner, J. E., & Prout, T. T. (1994). *The Vygotsky reader*. Oxford: Basil Blackwell Publishers.

Van der Veer, R. (2007). *Lev Vygotsky*. London: Bloomsbury Publishing.

Vygotsky, L. S. (1980). *Mind in society: The development of higher psychological processes.* London: Harvard University Press.

Vygotsky, L.S. (1986). *Thought and language*. A. Kozulin (Ed.). Cambridge, MA: MIT Press.

Wentworth, R. A. L., & Wentworth, F. (2013). *Montessori for the new millennium: Practical guidance on the teaching and education of children of all ages, based on a rediscovery of*

the true principles and vision of Maria Montessori. New York: Routledge.

Williams, M. C. (1995). *Understanding geographical and environmental education*. London: Redword Books.

Wells, K. B. (2014). *Autonomy supporting teaching practices in public Montessori schools*. (Unpublished Master's Thesis, Saint Mary's College, California).

Yin, R. K. (2009). *Case study research: Design and Methods. Fourth edition*. London: SAGE Publications.

Zener, R. (1994). *Knowledge and attitudes of Montessori teachers of young children as a context for guiding normalization and self-construction process*. (Unpublished Doctoral Thesis, The University of Maryland, College Park).

Appendices

Appendix A - Semi- Structured Interview

Semi-Structured Interview Questions

Introduction

Introduce myself and explain the purpose of the research study. Exchange contact information to keep in contact throughout the duration of data collection and thereafter if needed.

Remind the teachers of the interview protocols:

- What the interview will entail.
- Their right to withdraw from the study at any given time.
- Re-assure participants of confidentiality and anonymity (that a pseudonym/code will be used).
- Allow participants the opportunity to choose a pseudonym.
- Remind participants of their right to refuse to answer any questions they are not comfortable answering.
- Similarly, remind the participants to their right to withdraw any information given during the course of the interviews/study.

Proceed with interview questions

This will be a semi-structured interview and the following questions will be used as a guide. Instances may arise where probe questions will be asked to provide clarity of the teachers' responses.

Semi-structured interview questions:

1. What is your understanding of the Montessori Method?
2. What is your understanding of the practices/philosophical principles associated with Montessori education?
3. Why are these principles important when enacted in practice faithfully to Montessori's recommendations?
4. How do you adopt and implement:

    a) mixed age group of children, spanning 3 years
    b) lesson presentation format,
    c) the work cycle,
    d) the freedom of choice to work with others, participate in circle or lesson time, work with activities for as long as the child prefers,

a) provide children only with Montessori materials.

5. Why have you made such modifications to this practice/s?
6. What is your understanding of the teacher's role in the Montessori method?
7. What factors would you say in your opinion prevent the implementation of the authentic Montessori Method in your classroom?
8. What psychological factors have influenced you to modify the Montessori method in the Montessori classrooms?
    - What are your perceptions/beliefs about this practice?
    - How have these affected your practice and the implementation of the method?
9. What social factors have influenced you to modify the Montessori method in the Montessori classrooms?

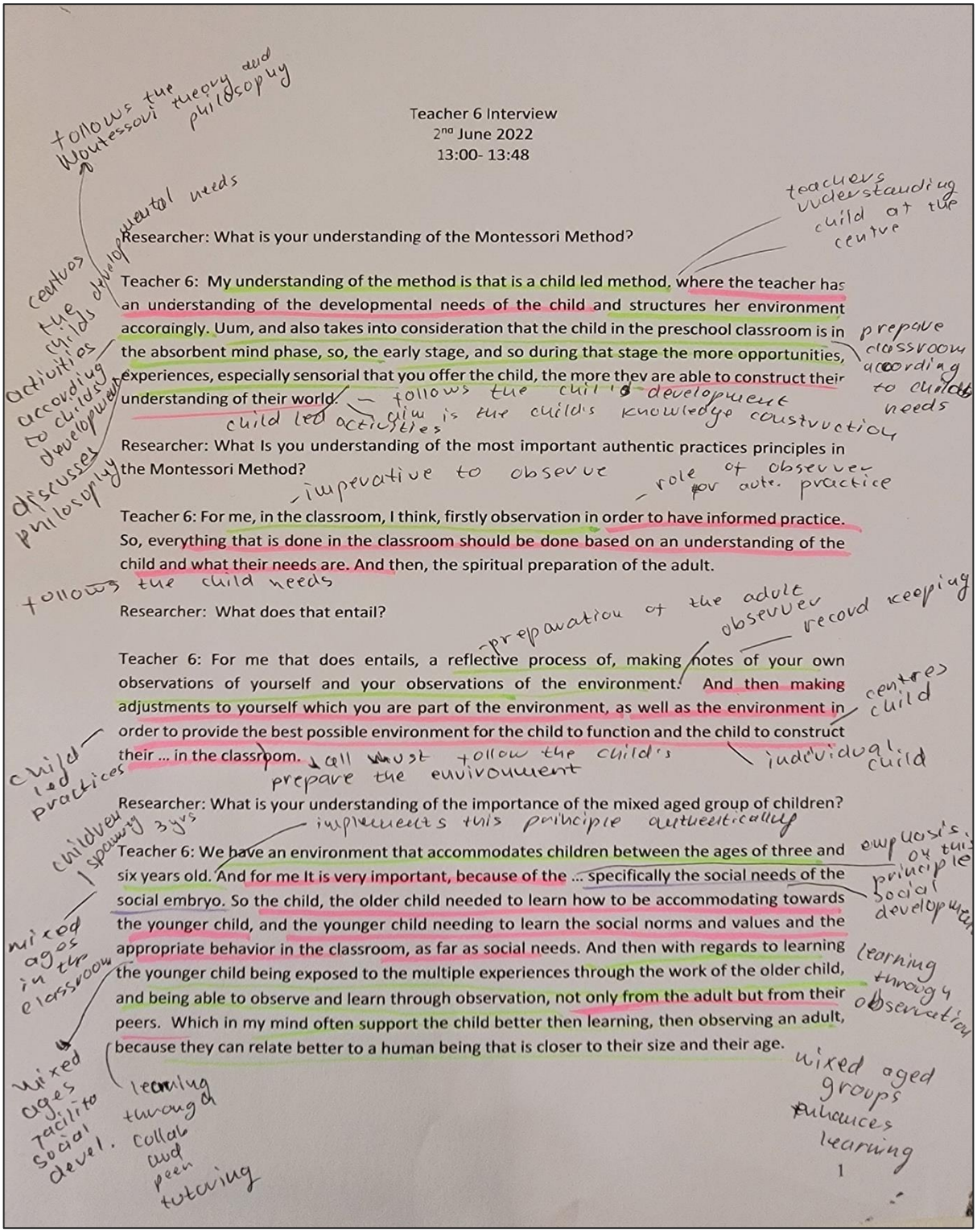
After the interview I will thank the teachers for their time and for allowing me the opportunity to interview them. After that I will answer any questions raised by the teachers regarding the interview questions or the study overall.

Appendix B - Teachers Biographical Questions

Please read the following questions and write your answers accordingly.

Teachers' Biographical Details	
1.How old are you?	
2. Female or Male?	
3.Which degrees/ diplomas/ certificates do you hold?	
4.Do you have a Montessori early childhood certificate?	
5.What type of Montessori certification do you hold?	
6. Where did you received your Montessori training and when was your certificate issued?	
7. What was the duration of your Montessori teacher training?	
8. Did you teach prior to becoming a Montessori directress and work as one? If yes, what position did you hold and for how long?	
9. When were you employed in this school?	
10. Is this school accredited, and if so, by which agency?	
11. How long have you taught as a Montessori teacher?	

Appendix C - Teacher's 6 Interview Extract (Preliminary Codes)



Teacher 6 Interview
2nd June 2022
13:00- 13:48

Researcher: What is your understanding of the Montessori Method?

Teacher 6: My understanding of the method is that is a child led method, where the teacher has an understanding of the developmental needs of the child and structures her environment accordingly. Uum, and also takes into consideration that the child in the preschool classroom is in the absorbent mind phase, so, the early stage, and so during that stage the more opportunities, experiences, especially sensorial that you offer the child, the more they are able to construct their understanding of their world.

Researcher: What Is you understanding of the most important authentic practices principles in the Montessori Method?

Teacher 6: For me, in the classroom, I think, firstly observation in order to have informed practice. So, everything that is done in the classroom should be done based on an understanding of the child and what their needs are. And then, the spiritual preparation of the adult.

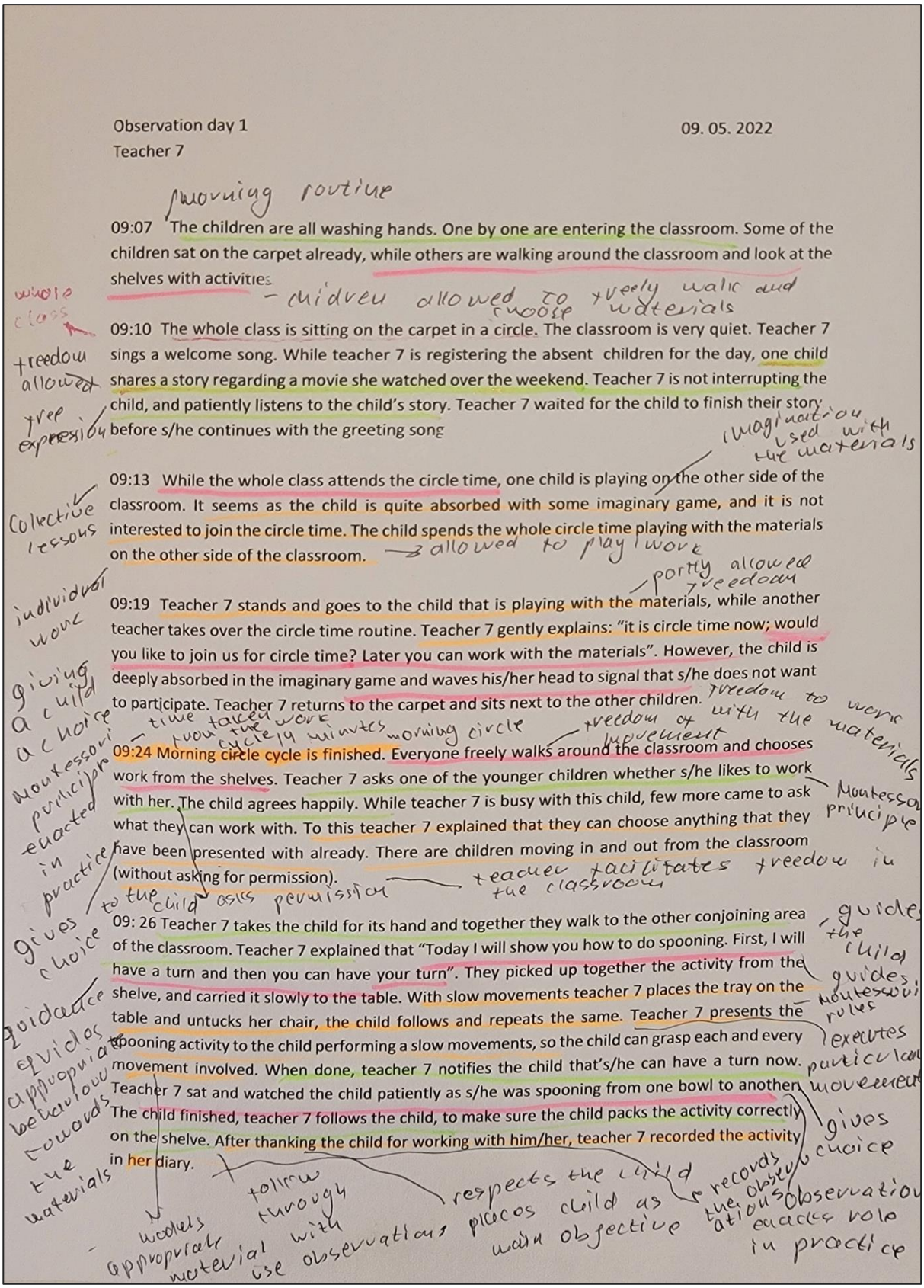
Researcher: What does that entail?

Teacher 6: For me that does entails, a reflective process of, making notes of your own observations of yourself and your observations of the environment. And then making adjustments to yourself which you are part of the environment, as well as the environment in order to provide the best possible environment for the child to function and the child to construct their ... in the classroom.

Researcher: What is your understanding of the importance of the mixed aged group of children?

Teacher 6: We have an environment that accommodates children between the ages of three and six years old. And for me It is very important, because of the ... specifically the social needs of the social embryo. So the child, the older child needed to learn how to be accommodating towards the younger child, and the younger child needing to learn the social norms and values and the appropriate behavior in the classroom, as far as social needs. And then with regards to learning the younger child being exposed to the multiple experiences through the work of the older child, and being able to observe and learn through observation, not only from the adult but from their peers. Which in my mind often support the child better then learning, then observing an adult, because they can relate better to a human being that is closer to their size and their age.

Appendix D - Classroom Observation Extract (Preliminary Codes)



Observation day 1
Teacher 7

09. 05. 2022

morning routine

09:07 The children are all washing hands. One by one are entering the classroom. Some of the children sat on the carpet already, while others are walking around the classroom and look at the shelves with activities

- children allowed to freely walk and choose materials

whole class

09:10 The whole class is sitting on the carpet in a circle. The classroom is very quiet. Teacher 7 sings a welcome song. While teacher 7 is registering the absent children for the day, one child shares a story regarding a movie she watched over the weekend. Teacher 7 is not interrupting the child, and patiently listens to the child's story. Teacher 7 waited for the child to finish their story before s/he continues with the greeting song

freedom allowed

free expression

imagination used with the materials

09:13 While the whole class attends the circle time, one child is playing on the other side of the classroom. It seems as the child is quite absorbed with some imaginary game, and it is not interested to join the circle time. The child spends the whole circle time playing with the materials on the other side of the classroom. → allowed to play more

Collective lessons

partly allowed freedom

individual work

09:19 Teacher 7 stands and goes to the child that is playing with the materials, while another teacher takes over the circle time routine. Teacher 7 gently explains: "it is circle time now; would you like to join us for circle time? Later you can work with the materials". However, the child is deeply absorbed in the imaginary game and waves his/her head to signal that s/he does not want to participate. Teacher 7 returns to the carpet and sits next to the other children.

giving a child a choice

Montessori principles enacted in practice

gives choice to the child

time taken for the whole cycle 14 minutes

morning circle

freedom of movement

freedom to work with the materials

09:24 Morning circle cycle is finished. Everyone freely walks around the classroom and chooses work from the shelves. Teacher 7 asks one of the younger children whether s/he likes to work with her. The child agrees happily. While teacher 7 is busy with this child, few more came to ask what they can work with. To this teacher 7 explained that they can choose anything that they have been presented with already. There are children moving in and out from the classroom (without asking for permission).

Montessori principle

asks permission

teacher facilitates freedom in the classroom

guidance

guides appropriate behaviours towards the materials

09: 26 Teacher 7 takes the child for its hand and together they walk to the other conjoining area of the classroom. Teacher 7 explained that "Today I will show you how to do spooning. First, I will have a turn and then you can have your turn". They picked up together the activity from the shelve, and carried it slowly to the table. With slow movements teacher 7 places the tray on the table and untucks her chair, the child follows and repeats the same. Teacher 7 presents the spooning activity to the child performing a slow movements, so the child can grasp each and every movement involved. When done, teacher 7 notifies the child that's/he can have a turn now. Teacher 7 sat and watched the child patiently as s/he was spooning from one bowl to another. The child finished, teacher 7 follows the child, to make sure the child packs the activity correctly on the shelve. After thanking the child for working with him/her, teacher 7 recorded the activity in her diary.

guides the child

guides Montessori rules

executes particular movement

gives choice

records the observation

observation enacts role in practice

follow through

models appropriate material with use

respects the child

places child as main objective

Appendix E - List of Non-Montessori Materials in the Classroom

T6

List of non-Montessori materials (supplemented materials) evident and used in the classrooms

Practical Life	Sensorial	Mathematics	Language	Cultural	Others
flexible	Rowan Avch	1-Squantity	stove alphabet	—	dressing
activities	leaf watchi	counting	magnets	self made	baby
	puzzles	pebbles	felt felt		doll
	frog puzzle	blocks	made activ		books
	stove bought	quantity			notebooks
		to number			worksheets
		matus work			
		sheets			

Appendix F - Table with Final Codes, Preliminary Themes and Final Themes

Participant 6		
Final Codes	Preliminary Themes	Final Themes
☐ Wholistic method	Wholistic method	Child centred method
☐ Child led method	Child led method	
☐ Following the Montessori theory	Montessori theory	
☐ Following the child's development	Following the child	
☐ Classroom decision based on child's needs	Following the child	
☐ Child led practices	Child led	
☐ Child centred classroom	Child centred	
☐ Present mixed ages	Mixed ages	Mixed aged groups
☐ Crucial to have mixed ages	Mixed ages	
☐ Social needs of the child	Social development	
☐ Younger children learn from older children	Peer tutoring	
☐ Benefits from having mixed ages	Mixed ages	
☐ Enhanced vocabulary when working together	Collaboration	
☐ Individual lessons vital for concentration	Individual lesson	Individualised lessons
☐ Small groups working together	Small groups lesson	
☐ Small group only for children on same level	Small groups lesson	
☐ Importance of individual lessons	individual lesson	
☐ Benefits of long work cycle	work cycle	Shortened work cycle
☐ Work cycle modified	modification	
	work cycle	

Appendix G - Principal Permission Letter

PRINCIPAL PERMISSION LETTER

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

University of the Witwatersrand ,
School of Education, Tel: (27) 011 717 3003

Principals name and surname [_____]
Schools name [_____]
Schools Address [_____]
Date [/ /]

Dear Sir/Madam,

Re: Permission to Conduct Research at Your School

My name is Ruzhica Gorgieva, and I am a Masters student at the School of Education at the University of the Witwatersrand. I am seeking permission to do research at your school.

As part of my degree I am conducting research within the field of Montessori education, focusing on teachers understanding, adoption and implementation of the Montessori method in schools in Gauteng. The title of my research study is ***"Teachers Understanding, Adoption, and Implementation of the Montessori method in selected Montessori schools in Gauteng.*** The aim of this research study is to find out how teachers understand the Montessori method and their role, as well as to establish whether teachers intentionally or unintentionally modify the Method in their classrooms by examining the psycho-social factors that influenced the teachers to modify the method.

The research will entail collecting data from teachers. I require your assistance in selecting three pre-primary teachers (teaching 3-6 yr. old learners) that I may invite to participate in this research. If they agree, the participants will be asked to participate in an audio recorded interviews via online communication platforms as Zoom, Ms Teams, Skype as convenient for the participants. The interviews will take place after working hours, lasting 30-45 minutes. Additionally, with the participants agreement, I will observe their classes over three days period of time per class. The observations will be recorded by hand and apart from this the observations shall be audio recorded.

I request your permission, to review documents such as the schools prospectus, schools newsletters, school policies, lesson plans and the schools written curricula, if available. Please

note the documents will be used as additional supplements to the other data collected from the interviews and the observations, that can help me with answering the study's questions. Due to the Covid-19 pandemic, and to ensure safety for both parties, it will be of upmost convenience for the above mentioned documents to be handled electronically with use of online communication modes as email, Skype, MS Teams, etc. To protect the participants, the learners and myself during classroom observations, Covid regulations, guidelines and protocols are to be followed at all times. I will adhere to the social distancing rules of one metre and a half, in order to promote safety for myself, the participants and the learners. Similarly, I will wear mask at all times, and no personal items are to be shared. I will ensure of washing and sterilizing my hands and items (e.g. chair, table) with alcohol based sanitiser at all times. I will carry my own Covid-19 toolkit bag containing of: masks (for myself, teachers and learners), thermometer, alcohol based surface sterilizer and hand sanitiser, box of tissues and bag to dispose the used mask and tissues. Please note, all expenses incurred will be covered by myself.

Participants will be asked to give their written or verbal consent before the research begins. Their responses will be treated confidentially and their identities (their names and the name of the school) will be anonymous. Individual privacy will be maintained in all published and written data resulting from the study.

The research participants will not be advantaged or disadvantaged in any way. They will be reassured that they can withdraw their consent at any time during this research study without any penalty. There are no foreseeable risks in participating in this study, and there is also no form of renumeration offered to the participants (participants will not be paid for this study).

All research data will be kept securely in a locked cabinet and password protected computer with restricted access to the researcher, and will be completely destroyed within 3 – 5 years after completion of the study.

I therefore request permission in writing to conduct my research at your school. The permission letter should be on your organization headed paper, signed and dated, and specifically referring to myself by name and the tittle of my study.

Please let me know if you require any further information. I look forward to your response as soon as is convenient.

Yours sincerely,
Ruzhica Gorgieva

Researcher's contact details:

Ruzhica Gorgieva, Cell: 076 905 9060, Email: 2333746@students.wits.ac.za

Supervisor's contact details:
Dr Peter Aloka, Tel: (011) 7177 3098, Email peter.aloka@wits.ac.za, or
Mr Rashad Bagus, Tel: (011) 717 3069,Email rashad.bagus@wits.ac.za

Appendix H - Participant Information Sheet

PARTICIPANT INFORMATION SHEET

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

University of the Witwatersrand ,
School of Education, Tel: (27) 011 717 3003
Date [/ /]

Dear Sir/Madam,

Re: Information letter regarding participation in a research study

My name is Ruzhica Gorgieva, and I am a Masters student at the School of Education at the University of the Witwatersrand, Johannesburg. As part of my degree, I need to undertake a research study, and I am investigating "***Teachers Understanding, Adoption, and Implementation of the Montessori method in selected Montessori schools in Gauteng, South Africa***", under the supervision of Dr Peter Aloka and Mr Rashad Bagus. The aim of this research is to find out how teachers understand the Montessori method and their role, as well as to establish whether teachers intentionally or unintentionally modify the Method in their classrooms by examining the psycho-social factors that influenced the teachers to modify the method.

As part of this project, I would like to invite you to participate in my research study. Participation entails me observing your class for duration of three days during the work cycle. Apart from me taking written notes, the observations with your permission shall be audio-taped and later transcribed and brought back to you for verification of authenticity. This is to ensure accurate observation of the events. I will be passive observer in your classroom, thus I do not intend to interrupt your class routine in any way. I would like to interview you on the last day of the observations, in order to gain your insight and input on the practices used and occurring in your classroom. The interview will last 30-45 minutes and it will take time after school hours, via online communication platforms as Zoom or Microsoft Teams, with aim not to disturb your daily school routine in any way. With your permission, I would also like to audio record the interview using a digital device. Additionally, I would like to ask you a few biographical questions, followed by five open ended questions. If you agree, I will send you these questions via email before I commence with the observations, so you can have the flexibility to answer them at your own convenience. The recordings will be stored in a password protected computer and only the researcher will have access to the recordings and deleted within 3-5 years.

There will be no personal costs to you if you participate in this research study. You will not receive any direct benefits from participation but there are no disadvantages or penalties if you do not choose to participate or if you withdraw from the study. You may withdraw at any time or not answer any question if you do not want to. The interview and observations will be completely confidential and anonymous as I will not be asking for your name or any identifying information, and the information you give to me will be held securely and not disclosed to anyone else. Anonymous direct quotes from the observations and interview may be used in the final study. I will be using pseudonym (false name) to represent your participation in my final study. If you experience any distress or discomfort at any point in this process, we will stop the observations and interview or resume another time.

Due to the Covid pandemic at the moment, yours and the learners safety and wellbeing is off outmost importance to me. To protect you, the learners and myself during classroom observations, Covid regulations, guidelines and protocols are to be followed at all times. I will adhere to the social distancing rules of one metre and a half, in order to promote safety for all parties involved. I will wear mask at all times, and no personal items are to be shared. I will ensure of washing and sterilizing my hands and items (e.g. chair, table) with alcohol based sanitiser at all times. I will carry my own Covid-19 toolkit bag containing of: masks (for myself, teachers and learners), thermometer, alcohol based surface sterilizer and hand sanitiser, box of tissues and bag to dispose the used mask and tissues. All expenses incurred will be covered by myself.

If you have any questions during or afterwards this research, please feel free to contact me on the details listed below. below. This study will be written up as a dissertation which will be available online through the university library website. If you wish to receive a summary of this research study, I will be happy to send it to you. With your permission, the data collected from this research study may be used by other researchers in an anonymized format, subject to their own ethical clearance being obtained. The data collected from this research study will be stored in a locked cabinet and password protected computer and will be kept for 3 – 5 years. If you have any concerns or complaints regarding the ethical procedures of this study, you are welcome to contact the University Research Ethics Committee (Non-Medical), telephone +27 (0)11 717 1408, email hrecnon-medical@wits.ac.za.

Yours sincerely,
Ruzhica Gorgieva

Ruzhica Gorgieva, Cell: 076 905 9060, Email: 2333746@students.wits.ac.za

Supervisor's contact details:
Dr Peter Aloka, Tel: (011) 7177 3098, Email peter.aloka@wits.ac.za, or
Mr Rashad Bagus, Tel: (011) 717 3069,Email rashad.bagus@wits.ac.za

Appendix I - Consent Form for Participants



Title of Research Study: "***Teachers Understanding, Adoption, and Implementation of the Montessori method in selected Montessori schools in Gauteng, South Africa***"

Name of Researcher: Ruzhica Gorgieva

I, ……, agree to participate in this research project. The research has been explained to me and I understand what my participation will involve.

I agree to the following:

(Please select the relevant options below)

I have read and understood the information sheet and acknowledged its contents.	Yes	No
I agree that my participation is completely voluntary and I may choose not to participate or to withdraw my consent at any given time without any negative consequences.	Yes	No
I agree that the observations will be audio recorded audio-taped and later transcribed and brought to me for verification of authenticity.	Yes	No
I agree that the interview will be audio recorded and later transcribed.	Yes	No
I understand that the data collection process will not interfere with the day-to-day running of the school, nor will it interfere with the learners' schoolwork.	Yes	No
I agree that my identity will be kept will be kept confidential and pseudonyms will be used to ensure anonymity.	Yes	No
I agree anonymous direct quotes from the observations to be used in the final study.	Yes	No
I agree anonymous direct quotes from the interview to be used in the final study.	Yes	No
I am aware that the researcher will adhere and follow all Covid-19 regulations, guidelines and protocols to ensure safety for everyone involved during classroom observations.	Yes	No
I agree that the information I provide may be used anonymously after this project has ended, for academic purposes by other researchers, subject to their own ethics clearance being obtained.	Yes	No

…… (signature)
…… (name of participant)
……..(date)

…… (signature)
…… (name of person seeking consent)
…… (date)

Appendix J - Ethics Approval

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Research Office

HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)
R14/49 Gorgieva

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER: H21/08/06**
PROJECT TITLE	Teachers Understanding, Adoption and Implementation of the Montessori Method in Selected Montessori Schools In Gauteng, South Africa
INVESTIGATOR(S)	Mrs R Gorgieva
SCHOOL/DEPARTMENT	Wits School of Education/
DATE CONSIDERED	20 August 2021
DECISION OF THE COMMITTEE	Approved Risk Level: Minimal
EXPIRY DATE	16 November 2024

DATE 17 November 2021 **CHAIRPERSON** _____
(Professor J Knight)

cc: Supervisor : Dr P Aloka and Mr R Bagus

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10004, 10th Floor, Senate House, University. Unreported changes to the application may invalidate the clearance given by the HREC (Non-Medical)

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to submit an amendment of the protocol to the Committee. **I agree to completion of a regular progress report. For Minimal and Low studies, this is due annually on 31 December. For Medium and High Risk studies, this is due twice annually on 30 June and 31 December.**

_____ 17 / 11 / 2021
Signature **Date**

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES

Appendix K - Language Editing Certificate



Embed Educational Services: Carol Macdonald PhD

6 Andover Road, Westdene, Johannesburg 082 562 1050

Certificate of Editing

Teachers' Understanding, Adoption, and Implementation of the Montessori Method in Selected Montessori Schools in Gauteng, South Africa

Ruzhica Gorgieva

1st March 2023